

## 55 - MONMOUTH COUNTY

The Planning Team met with Monmouth County departments that had mitigation actions in the previous plan – or had new mitigation actions to include in this plan update, in January and February of 2025. Those County departments include the Division of Planning, Public Works & Engineering, Park System, OEM, and Buildings and Grounds.

### Completed or Removed Actions

**Table 6.1-1 Monmouth County Completed or Removed Mitigation Actions**

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
Action 1	Protect and Restore Claypit Creek and Portland Place	Re-establish, restore, and stabilize the eroded bluff and establish a living shoreline at the river edge to further provide protection of the slope to future storm events as well as provide and enhance habitat for fish and wildlife.	Wave Action, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Monmouth County Park System	FEMA HMA, County Capital	\$720,000	2 years	Completed	For the Hartshorne Woods Park – Claypit Creek Area Shoreline stabilization project, shoreline plantings were installed in front of bulkhead of Claypit Creek. This included high and low marsh plantings and a special seed mix. The bulkhead was taken down to elevation 1 to allow flow behind it in order to do a living shoreline project. HMA funded it. The project was completed in 2017 for \$70,867.50.  At Portland Place, a new basket revetment system was installed. It was funded by County Capital and cost \$720,000. It was completed in 2020.  Both projects are complete, although there is monitoring, replanting, and control of the phragmites in front. This is funded through the capital budget.
Action 2	Elevate Highway District #8 Office in Hazlet	The office building and garage at Highway District #8, in the Township of Hazlet, is prone to flooding. This project is for the design and	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	Monmouth County Public Works & Engineering	FEMA HMA	\$600,000	2 years	Completed	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
		reconstruction of the building and garage at a higher elevation to ensure the continuity of services during a disaster or crisis.								
Action 3	Repair, Remove, or Rehabilitate the Allentown Dam	Repair, remove, or rehabilitate Allentown Dam, a High-Hazard Potential Dam, located along Doctors Creek.	Dam Failure	High	Allentown Borough	County budget, NJDEP Bureau of Dam Safety and Flood Control	\$0.00	3 years	Withdrawn	Withdrawn due to the dam recently being upgraded and requires more ongoing maintenance than a remodel. Also the Borough of Allentown owns this dam now.
Action 4	Replace or Elevate County Bridges and Culverts	Projects may include the replacement of a County bridge or culvert and/or elevating the approach roadway above the flood elevation or to accommodate the new bridge structure. Project locations include, but are not limited to, the following: County Bridge H-5 H-5A, Palmer Ave (CR 7), Holmdel Middletown; County Bridge MA-11, Aberdeen Road, Matawan; County Bridges ML-17, ML-18, ML-19, Station Rd., Marlboro; County Bridge R-5, Florence Ave (CR 39), Union Beach; Union Ave (CR 39), Union Beach.	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Medium	Monmouth County Department of Public Works & Engineering	FEMA HMA, NJDOT		3 years	Withdrawn	Combined with new Action 67.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
Action 5	Inspect and Maintain the Structural Integrity of County Infrastructure	Hard armoring of creek and riverbanks and shorelines is not always possible or desirable. In most areas of the County, the only way to mitigate the results of flooding is to anticipate for, maintain, and provide efforts to recover after an extreme event. Thus, it is essential to inspect and maintain the structural integrity of County infrastructure and to perform activities to remove debris and sediment that may negatively affect the flow of surface water in and around this infrastructure. This includes activities such as removing debris from underneath low-lying bridges and culverts, clearing sediment build-up, or repairing embankment erosion on riverbanks near County infrastructure. Also, repairing and cleaning stormwater drains and other drainage systems.	Flood, Extreme Wind, Nor'easter, Hurricane and Tropical Storm	Medium	Monmouth County Department of Public Works & Engineering and local municipalities.	County budget		2 years	Withdrawn	Combined with new Action 67.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
Action 6	Install Hard-armoring on County Bridges that Experience Coastal Erosion	Due to the location of coastal bridges, the substructure is highly susceptible to scour and the effects of waves, tides, and storm surges. Installing hard armoring (i.e. rip rap, jetty stone, and/or steel sheeting) would mitigate this coastal erosion that jeopardizes County bridges and the roads they carry. One such bridge is Monmouth County Bridge W- 43 over the Shark River in the Boroughs of Avon-by-the-Sea and Belmar. Bridge W-43 carries Ocean Ave. (CR 18). Other potential bridges include but are not limited to; S-31 (Middletown, Rumson), 5-32 (Rumson, Sea Bright), and W-9 (Brielle, Manasquan).	Wave Action, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Medium	Monmouth County Department of Public Works & Engineering	FEMA HMA		2 years	Withdrawn	Combined with new Action 67.
Action 7	Repair, Remove, or Rehabilitate the Lake Topanemus Dam in Freehold Township	Repair, remove, or rehabilitate Lake Topanemus Dam, a High-Hazard Potential Dam, located along McGellaird's Brook.	Dam Failure	N/A	Monmouth County, owns dam	County budget, NJDEP Bureau of Dam Safety and Flood Control		N/A	Completed	This dam has been rehabilitated. By court order, Freehold Township and Borough are responsible for maintenance. The NJDEP has deemed the dam to be co-owned by the County, the Freehold Borough, and Freehold Township.

## New and Ongoing Actions

Table 6.1-2 Monmouth County Ongoing and New Mitigation Actions

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
Action 8	Provide Assistance to the National Flood Insurance Program's (NFIP) Community Rating System (CRS) Program	Provide technical and professional assistance to local municipalities for their engagement and advancement in the NFIP CRS program. Assistance includes hazard mitigation planning, community outreach, public information, flood protection information, mapping assistance, grant management, and floodplain regulation consultations.	Flood, Wave Action, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Monmouth County Division of Planning and OEM	Dedicated staff time, FMA, other State funds	\$100,000 per year	5 + years	Ongoing	See Section 5.0 Capability Assessment for more information on the County's CRS Assistance Program.  The County also helps with mapping services for wildlife species in the floodplain.
Action 9	Support Municipal Floodplain Management Planning	Assist municipalities in identifying and executing floodplain management activities that improve flood hazard mitigation, community resiliency, and recovery from storm events. Expand understanding, capabilities, and expertise in floodplain management. Monmouth County staff members would welcome more advanced training and certifications in areas such as floodplain management strategies and land use development in the SFHA. Training and certification would be necessary to provide resource support to reduce these costs and bridge the planning gap.	Flood, Wave Action, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Medium	Monmouth County Division of Planning and OEM	Dedicated staff time, FEMA HMA	\$25,000 per year	5 + years	Ongoing	The County coordinates with New Jersey Department of Environmental Protection (DEP) and NFIP on floodplain trainings, provides courtesy reviews of stormwater control ordinances and stormwater management plans in accordance with DEP.
Action 10	Expand Online Mapping Services	Many municipalities rely on GIS assistance from Monmouth County. This system can be improved to provide municipal access with online services. This requires new software and/or software licenses, hardware and equipment, data updates, and upgrades as well as investments in the existing technology infrastructure. This system would also allow the public to access GIS information and customize maps showing risks to their property and community. It also ties back to CRS mapping requirements as well as to information used in the development of local master plans, planning, hazard response, community outreach, public information, flood information,	Flood, Wave Action, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Medium	Monmouth County Division of Planning, OEM, Division of GIS	Dedicated staff time, FEMA HMA	\$50,000 per year	5 + years	Ongoing	The County has a self-service GIS flood mapper, FEMA maps posted on the County website, contracts Forerunner, and promotes Know your Zone.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
		mapping, municipal training, and CRS Support. Support development of interactive, online mapping services for public use provides municipalities with technical assistance and training, improves inhouse GIS system network, provides mapping and analysis services to CRS engaged communities, and enhances information assimilation and distribution.								
Action 11	Acquire Flood-prone Properties, especially Repetitive Loss and Severe Repetitive Loss Properties	To create a County-wide public open space system that will help meet park and recreation needs and conserve vital natural resources, the Monmouth County Park System will continue to acquire properties within project areas designated in the Monmouth County Open Space Plan (2019). Properties subject to flooding, severe winter weather, and associated storm surges are considered for purchase to meet the goals of the Monmouth County Open Space Plan. By purchasing these properties, any buildings located in the flood zone are removed and the land is restored to a natural condition.	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Winter Storm	High	Monmouth County Park System	FEMA HMA, NFIF grant	\$100M	5 + years	Ongoing	<p>This action is ongoing. The Park System continues to purchase properties across the County. Since 2019, it has acquired 27 properties totaling 326 acres.</p> <p>The Open Space Plan is dated 2019. The County hopes to do an update or amendment in 2025.</p>
Action 12	Improve Coastal Dune System, Maritime Forests, and Near-Coastal Habitats	Regrade sand fencing to establish dune topography and increase vegetation management to establish native coastal vegetation adapted to coastal hazard and slopes for Fisherman's Cove Conservation Area, Seven Presidents Oceanfront Park, Henry Hudson Trail at Popamora Point, and Bayshore Waterfront Park. Restore a pond area and hydroseed a large field area that was previously a parking lot to establish a coastal habitat there.	Flood, Wave Action, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Medium	Monmouth County Park System, US Fish & Wildlife Service, NOAA, FEMA, HRERP	NJCWRP, FEMA HMA, NFWF, Acres for America, NOAA, US FWS EPA, NJDOT	\$1.4M	3 years	Ongoing	<p>This action is ongoing. An invasive removal project as well as a wildlife conservation project at Seven Presidents were performed to get vegetation back into native cover. Dredging was completed at Fisherman's Cove. Old parking lot was converted to field and pond area to establish coastal habitat.</p>

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
Action 13	Install Stream Bank Stabilization Techniques for the Ramanessin Brook, Pine Brook, and Manasquan River	A proposal has been in the planning phase for many years to reintroduce stream form and function in the upper reaches of the watershed where extensive straightening occurred in the past. This will result in more stream stability and improved water quality	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	Monmouth County Park System	FEMA HMA, County budget	\$2.3M	2 years	Ongoing	A J Hook was installed in Ramanessin Brook, and the stream bank was redone. This is tied into upgrades to the detention basins; the traditional basins were turned into swales with best management practices.
Action 14	Conduct Scheduled Burning and Mechanical Thinning at 3 County Parks	Conduct scheduled burning and mechanical thinning at Fisherman's Cove Conservation Area (Manasquan), Turkey Swamp Park (Freehold Twp.), and Bayshore Waterfront Park (Middletown Twp.).	Wildfire	Medium	Monmouth County Park System	County budget	\$55,000	1 year	Ongoing	<p>No scheduled burning has been done since 2017 because of the liability language of State Forest Fire. The Park System is in active conversations with the County Administration regarding this.</p> <p>The Park System is controlling the phragmites at Fisherman's Cove through mechanical thinning.</p> <p>At Turkey Swamp Park there is a bid out to remove the invasive shrubs there to reduce fire hazard.</p> <p>At Bayshore, invasives have been removed using hand tools and non-mechanical methods.</p>

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
										All funding comes from the County budget.
Action 15	Implement Slope Stabilization Techniques Along the Henry Hudson Shoreline	A one-mile segment of the coastal trail will be the target area of this project. Various living shoreline techniques and wave attenuation structures will be investigated to find the "best fit" approach that will be permissible, economic, and supported by adjacent residents. Additional work of stabilization of the slope will also be investigated that will replant or restore the slope for adjacent public owned properties.	Flood, Wave Action, Landslide, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Monmouth County Park System	FEMA HMA, NJDEP Blue Acres, EPA, NOAA, NFWF	\$20M	3 years	Ongoing	The Park System is looking to implement several techniques in the area and is at the phase of applying for funding.
Action 16	Improve County Evacuation Preparations	Improve the physical (signage, striping, conversion of traffic signals to LED) and operational preparation (identifying severe inundation zones as priority areas) to place first responders at key intersections and check points and coordinate of highway advisory radio. This is in addition to Long Term Improvements (widening and elevating of roads and bridges) of the County Evacuation Routes, as documented in the 2009 Monmouth County Coastal Evacuation Routes Improvement Study. This study provided a transportation system condition and assessment of 12 Portal Evacuation Routes within the County. Some targeted improvements based on the recommendations would likely result in substantial benefits on roadway capacity, balancing travel demand and safety along the overall length of each portal route. Physical and operational preparations would be in addition to promoting Monmouth County's Know Your Zone initiative.	All Hazards	Medium	Monmouth County Department of Public Works & Engineering and Monmouth County Planning Division	County budget	\$20M	5 + years	Ongoing	No update.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
Action 17	Increase Hazard Education and Risk Awareness at the County Level	Delivering preparedness education and community outreach on programs geared towards preparedness and small-scale mitigation efforts. This action will be the delivering of preparedness education in the form of mitigation seminars discussing mitigation options (i.e. flood vents, wet and dry floodproofing, elevation of utilities). The action will involve community focus meetings targeting the most at-risk communities and working through each area of the County.	All Hazards	High	Monmouth County OEM	County budget	\$582,000	5+ years	Ongoing	<p>1. Seniors and students take programs on readiness measures. The cost is \$62 per person, and 250 seniors and 85 students have taken it.</p> <p>2. Ready, Go, Bag – About 3,000 people per year are involved in this.</p> <p>CERT has 55 active volunteers.</p>
Action 18	Provide Building Retrofits for the County Evacuation Centers	Provide building retrofits with hurricane-proof glass and storm shutters for the exterior windows and any applicable doors.	Extreme Wind, Nor'easter, Hurricane and Tropical Storm	Medium	Monmouth County OEM	FEMA HMA	\$1M	1 year	Ongoing	No progress. The Park System noted that Fort Monmouth is a shelter but does not have all of these retrofits. OEM said that Biotech needs another new generator (A 600kW one was obtained.). The Police Academy needs HVAC upgrades and a generator for the full facility. The water and plumbing are dated. This may cost \$400,000. A facilities management transfer switch would cost around \$500,000.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
Action 19	Create a Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Bundle Project	Create a project that groups together RL and SRL Properties and then the County and NJOEM apply for a regional level mitigation project.	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Winter Storm	High	NJOEM	NJOEM	TBD	2 years	Ongoing	NJOEM is prioritizing elevation bundles of RL/SRL properties. The County supports this project.
Action 20	Improve Financial Management of Grant Monies	Hire new staff or rearrange existing staff's responsibilities to improve financial management of grant monies allotted to the County.	All Hazards	Medium	Division of Shared Services and Finance	DCA	\$100,000 per year	5+ years	Ongoing	The County would like to hire a grant writer.
Action 21	Create 3D digital Elevation Models of Structures and Infrastructure within the 500-year Flood Zones	Use mobile LiDAR Technology to create current 3D digital elevation models of all homes, businesses and infrastructure within Monmouth County coastal communities located within the 500-year flood zones. This project will collect digital images and develop models that provide an accurate assessment of flood damages that have been incurred by residents, businesses, and infrastructure because of specific past events. Additional information to be included within each property /parcels data set will be first floor elevations of mitigated properties, affixing property elevation certificates, NFIP information and creating an ArcGIS online web application for viewing. In addition, the project will overlay FIRM data on the first-floor elevation data to help identify which buildings and infrastructure are at future risk of flooding. All in the effort of building smarter more efficient ways of working towards greater resiliency. This also enhances various components of CRS program.	Flood, Nor'easter, Hurricane and Tropical Storm	Medium	Monmouth County OEM	County budget	\$250,000	2 years	Ongoing	Rutgers University is doing this in Ocean County; Monmouth County is also interested in it.
Action 22	Strengthen Damage Assessment	Monmouth County has established regional Damage Assessment Teams that are comprised of the Building and	All Hazards	Medium	CERT Team	County budget	\$56,000	2 years	Ongoing	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
	Teams	Construction Officials from within the municipal jurisdictions. This action is focused on increasing the training, exercising and further implementation costs associated with this program. The overall intent is to provide team members with the requisite FEMA training for accurately assessing damaged properties, appropriate personal protective equipment, a cache of tablets for utilizing ESRI ARCGIS web-based assessment tool and the required storage and sever capacity to maintain data.								
Action 23	Assist the NJ State Council for the Arts, NJ Cultural Alliance for Response (NJCAR), and Monmouth Arts in Improving Disaster Preparedness and Response for Arts, Cultural and Historic Buildings, Structures, and Institutions.	Prepare an action plan for arts organizations that support post disaster programs that support individual's emotional well-being, community engagement, assists with conflict resolution, and improve public health by channeling post-traumatic stress and anxiety into creative and productive community outcomes. Identify which cultural assets are threatened by storm surge; severe flooding, and/or sea level rise.	All Hazards	Low	New Jersey State Council for the Arts, NJCAR, and Monmouth Arts	County budget	TBD	2 years	Ongoing	Monmouth Arts has done outreach funded through DEP and NOAA Hazard Risk Communications "community-based arts grant"
Action 24	During Non-emergency Events, Continue to Support and Strengthen the Relationships between Government Agencies, Non-profits Organizations, and Volunteers that are	Continue to build their capacity to respond to acute and chronic post-emergency situations as well as improve means of providing redundant support, coordination, and communications in times of need.	All Hazards	Low	Monmouth County OEM	Robin Hood Foundation, County budget	TBD	5 + years	Ongoing	2026 update: In response to major storms, reactive the Long-term Recovery Group.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
	Community Partners in the County's Long-Term Recovery Group									
Action 25	Work with State Agencies to Update Regional Risk Maps for Risks that Extend Past the County Boundary	Work with State agencies to update regional risk maps, such as dam inundation flood limit maps.	Dam Failure	High	Monmouth County	County budget	Staff time	3 years	Ongoing	County OEM obtained updates on each of its dams from NJDEP after the April 2024 earthquake. Now it is putting this data into incident management system maps.
Action 26	Coordinate with the Monmouth County Chamber of Commerce to Improve Business Response Post Disaster	Work with the Chamber of Commerce to improve business response to disruption and preparedness from disasters.	All Hazards	Low	Monmouth County, Monmouth Regional Chamber of Commerce	County budget	Staff time	3 years	Ongoing	No update
Action 27	Purchase and Install Generators at County Highway District Facilities	Purchase and install permanent emergency generators at critical County Highway District facilities and the County Complex, which houses the administration buildings of the Department of Public Works & Engineering (including Bridge, Highway, and Traffic Safety Sections) which ensure the continuity of services during a disaster or crisis. The Highway Districts and Department of Public Works & Engineering maintain and repair approximately 1,000 miles of County roadways and nearly 1,000 bridges and culverts, as well as the associated traffic signals and signs. Many roads and bridges are also considered critical infrastructure, particularly those providing ingress and egress for	All Hazards	Medium	Monmouth County Department of Public Works & Engineering	FEMA HMA, County budget	\$2,000,000.00	1 year	Ongoing	The generators at the Thompson Park headquarters were funded with County capital and cost \$152,000. The Hall of Records and Human Services should have continuity of operations.

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		evacuees and those allowing emergency vehicles access to those in need. These roads are located in areas vulnerable to storm surge and inundation.								
Action 28	Rehabilitate, Upgrade, or Decommission Dams to Meet Current NJDEP Bureau of Dam Safety Standards.	<p>Rehabilitate and upgrade dams to meet current NJDEP Bureau of Dam Safety Standards for spillway, embankment, low level outlet structure downstream channel improvements. Replace the adjoining County-owned bridge raise the roadway profile to address the issue associated with a potential dam failure or improve passage during flood events. Project locations include, but are not limited to, the following: 1) Lake Lefferts Dam, County Bridge MA-9, Ravine Dr. (CR 6A), Matawan (design ongoing); 2) Matawan Lake Dam, County Bridge MA-13, Main St. (CR 516), Matawan (design ongoing); 3) Perrineville Dam, County Bridge MS-48, Perrineville Rd. (CR 1), Millstone (design ongoing); 4) Shadow Lake Dam, County Bridges MT - 30 MT-45, Hubbard Ave. (CR 12), Middletown (preliminary studies ongoing); 5) Indian Dam, County Bridge U-18, Church St. (CR 526), Allentown (inspection and preliminary studies ongoing); 6) Hurley Pond Dam, County Bridge W18, Allenwood Rd., Wall (H&amp;H complete); 7) County Bridge MN-4, Millstone; and (8) Englishtown Lake Dam, County Bridge MN-33, Main Street, (CR 527), Englishtown (H&amp;H and alternative analysis complete).</p> <p>Decommission Red Valley Dam and repair or rehabilitate County Bridge U-1, Trenton - Lakewood Rd. (CR 526), Upper Freehold. Preliminary studies are ongoing.</p>	Dam Failure, Flood, Nor'easter, Hurricane and Tropical Storm	High	Monmouth County Department of Public Works & Engineering; Monmouth County Park System	FEMA HMA, NJDEP Bureau of Dam Safety and Flood Control, FEMA's High-Hazard Potential Dam Grant Program	More than \$2,000,000.00	3 - 5 years	Ongoing	<p>The Perrineville Dam, owned by the Park System, is a Class II Significant Hazard Dam. The Park System is actively working on a project with County Engineering to bring the dam into compliance as well as to improve the County bridge.</p> <p>Lake Lefferts should be done by Summer 2025. The bridge and dam will be advertised late spring/early summer 2025 and under construction by the end of the year.</p>

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Action 29	Replace or Elevate County Bridges and Culverts	Projects may include the replacement of a County bridge or culvert and/or elevating the approach roadway above the flood elevation or to accommodate the new bridge structure. Project locations include, but are not limited to, the following: County Bridge H-5 H-5A, Palmer Ave (CR 7), Holmdel Middletown; County Bridge MA-11, Aberdeen Rood, Matawan; County Bridges ML-17, ML-18, ML-19, Station Rd., Marlboro; County Bridge R-5, Florence Ave (CR 39), Union Beach; Union Ave (CR 39), Union Beach.	Flood, Wave Action, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Medium	Monmouth County Department of Public Works & Engineering	FEMA HMA, NJDOT		3 years	Ongoing	MA-11 is ongoing; it will be completed in August 2025 and allow for the Lake Lefferts dam.  H5 and R5 are completed.  Others are under design.
Action 30	Inspect and Maintain the Structural Integrity of County Infrastructure	Hard armoring of creek and riverbanks and shorelines is not always possible or desirable. In most areas of the County, the only way to mitigate the results of flooding is to anticipate for, maintain, and provide efforts to recover after an extreme event. Thus, it is essential to inspect and maintain the structural integrity of County infrastructure and to perform activities to remove debris and sediment that may negatively affect the flow of surface water in and around this infrastructure. This includes activities such as removing debris from underneath low-lying bridges and culverts, clearing sediment build-up, or repairing embankment erosion on riverbanks near County infrastructure. Also, repairing and cleaning stormwater drains and other drainage systems.	Flood, Extreme Wind, Nor'easter, Hurricane and Tropical Storm	Medium	Monmouth County Department of Public Works & Engineering and local municipalities	County budget		2 years	Ongoing	The Bridge department takes care of this.
Action 31	Install Hard-armoring on County Bridges that Experience Coastal Erosion	Due to the location of coastal bridges, the substructure is highly susceptible to scour and the effects of waves, tides, and storm surges. Installing hard armoring (i.e. rip rap, jetty stone, and/or steel sheeting) would mitigate this coastal erosion that jeopardizes County bridges and the roads they carry. One such bridge is Monmouth County Bridge W- 43 over the Shark	Wave Action, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Medium	Monmouth County Department of Public Works & Engineering	FEMA HMA		2 years	Ongoing	Rumson Seabridge is under construction now. Nothing is done on W-9.

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		River in the Boroughs of Avon-by-the-Sea and Belmar. Bridge W-43 carries Ocean Ave. (CR 18). Other potential bridges include but are not limited to; S-31 (Middletown, Rumson), 5-32 (Rumson, Sea Bright), and W-9 (Brielle, Manasquan).								
Action 32	Preserve Land within the Vicinity of NWS Earle	Purchase conservation/agricultural easements and open space in order to help create a buffer surrounding NWS Earle to further mission sustainment and maintain public health, safety, and welfare. Easements and open space also mitigate the risk of flooding and wildfire by preventing new development in hazardous areas.	Wildfire, Storm Surge, Flood, Nor'easter, Hurricane and Tropical Storm	High	County Planning Division, U.S. Navy, participating municipalities, Monmouth Conservation Foundation, County Park System	REPI Program, DEP Green Acres Program	\$25M	5+ years	New 2026	As of January 2025, the County has preserved two properties and are working on acquiring one more.
Action 33	Improve Safety for the Traveling Public	There is growing concern about roadway safety, particularly the increase in pedestrian fatalities. In 2024, Monmouth County reported 48 fatalities involving drivers, passengers, bicyclists, and pedestrians. To address this urgent issue, the County is developing a Safe Streets for All (SS4A) Action Plan. This initiative aims to create a comprehensive, data-driven, and community-focused strategy to identify and mitigate travel safety concerns. The intent is to implement the plan's recommended safety enhancement projects and policy directives, resulting in a significant reduction or elimination of traffic-related fatalities and serious injuries.	Public Roadway Safety-Transportation Accidents	High	Monmouth County Planning Division	Federal Highway Administration, Safe Streets for All (SS4A) Grant Program	TBD in the Action Plan	3 years	New 2026	
Action 34	Removing Barriers to Mobility	In 2024, the Monmouth County Division of Planning completed the Barriers to Mobility Study, known as Monmouth PATHS: Access for All. The study highlighted significant mobility and accessibility challenges faced by residents and visitors, along with	All Hazards	Medium	Monmouth County Planning Division	TBD	TBD in the Action Plan	5 years	New 2026	

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		strategies to enhance infrastructure, services, and policies to address these issues. Tackling these barriers is critical, as obstacles such as flooding, inadequate drainage, missing links in infrastructure critical to mobility such as sidewalks, or malfunctioning equipment can severely disrupt the movement of people and emergency services during crises. Removing these obstacles will lead to a safer, more equitable, and efficient transportation system, enabling faster response times for first responders and smoother evacuations, particularly for individuals who rely on walking, cycling, or public transit for mobility.								
Action 35	Reduce Human and Animal Conflicts on Roadways	In 2022, Monmouth County recorded 310 deer-vehicle collisions, the highest number of such incidents in the state. With shrinking habitats and a lack of natural predators, deer pose a significant threat to public safety on roadways. There is growing agreement that improved engineering techniques and design approaches could help mitigate these conflicts—not only with deer but also with other species that frequently intersect with human infrastructure. Reducing animal fatalities and minimizing conflicts with drivers requires a multifaceted approach, including driver awareness through signage, warning systems, and animal detection technologies; habitat conservation and land management; and infrastructure enhancements such as wildlife corridors, bridges, culverts, underpasses, tunnels, rope ladders, and similar solutions designed to facilitate safe wildlife movement and migration. Connecting Habitat Across New Jersey (CHANJ), an initiative by	Public Roadway Safety/Transportation Accidents	Low	Monmouth County Planning Division, County Park System	TBD	TBD	5 years	New 2026	The County Park System conducted a Deer Management Plan in 2024.

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		the NJDEP, aims to make landscapes and roadways more accessible for terrestrial wildlife by identifying critical areas and actions to achieve habitat connectivity across the state.								
Action 36	Obtain an Upgraded Generator for the Fire Academy	Obtain an upgraded generator to replace the current, outdated one. Connect it to the public utilities. The cost would be \$800,000 for water, \$150,000 for design, and \$800,000 for installation.	Power Failure	High	Monmouth County OEM	FEMA HMA	\$500M	2 years	New 2026	
Action 37	Install Fire Suppression in the County Courthouse and the Manalapan Western Branch Archives in case of a fire due to an act of terrorism	Install fire suppression in the west wing of the courthouse. At the moment, only the east wing has fire suppression. Install fire suppression in the Manalapan Western Branch Archives. It holds the records for the County.	Terrorism	High	Monmouth County OEM	County budget, DHS	TBD	2 years	New 2026	
Action 38	Upgrade the Cameras in Portions of the Monmouth County Courthouse, Public Safety Center, and Prosecutors Office	Upgrade the cameras in portions of the Monmouth County Courthouse, Public Safety Center, and Prosecutors Office	Terrorism	High	Monmouth County OEM	DHS	TBD	4 years	New 2026	

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Action 39	Obtain Portable Water Pumps (12"), Portable Generators, And Portable HVAC Units (Trailers).	Obtain portable water pumps (12"), portable generators, and portable HVAC units (trailers) at the Prosecutors Office in Asbury Park, Linkages in Tinton Falls, the Community Center in Neptune, and OEM Building Facilities. The OEM Building Facilities need two more generators with a 400-foot cable and may cost \$400,000.	Power Failure	Medium	Monmouth County OEM	FEMA HMA, County budget	\$400k	4 years	New 2026	
Action 40	Enhancement/Upgrades to the Shrewsbury River Flood Warning System	Enhance and upgrade the Shrewsbury River Flood Warning System. Six sites currently have it. Eight sites total are needed.	Hurricane and Tropical Storm; Nor'easter; Flood; and Storm Surge	High	Monmouth County OEM, DOT, surrounding municipalities	NOAA, FEMA HMA	\$100k	2 years	New 2026	
Action 41	Generator and Transfer Switch to Fort Monmouth OEM Warehouses, MedStar HQ, SACC / Back Up EOC, and Radio Sites (13)	Oceanport, Long Branch, Little Silver, Sea Bright, Rumson, Monmouth Beach, Highlands. Replacement generators are \$150,000 each.	Power Failure	Medium	Monmouth County OEM	County budget, FEMA HMA	\$2M	4 years	New 2026	
Action 42	Purchase and install a generator to Support COOP/COG 600KW+ with 400+ Ft Feeder cables	The County needs a large, portable generator to Support COOP/COG 600KW+ with 400+ Ft Feeder cables	Power Failure	Medium	Monmouth County OEM	County budget, FEMA HMA	\$2M	4 years	New 2026	
Action 43	Build a covered storage areas with solar panels for OEM equipment.	The facility storage is for all OEM equipment for the OEM warehouse. Incorporate solar panels are on top of the building.	All Hazards	Medium	Monmouth County OEM	County budget, sustainable grants	\$5M	3 years	New 2026	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
Action 44	Decommission Red Valley Dam and Repair or Rehabilitate County Bridge U-1, Trenton - Lakewood Rd. (CR 526), Upper Freehold.	Decommission Red Valley Dam and repair or rehabilitate County Bridge U-1, Trenton - Lakewood Rd. (CR 526), Upper Freehold. Preliminary studies are ongoing.	Flood, Wave Action. Nor'easter, Hurricane and Tropical Storm	High	Monmouth County Department of Public Works & Engineering	State of New Jersey, Monmouth County	\$2 million	2 - 5 years	New 2026	
Action 45	Shoreline Stabilization at Belford Ferry and N-61 Dredge Disposal area	Stabilize shoreline at Belford Ferry and N-61 Dredge Disposal area. Beach maintenance is per CAFRA General Permit.	Flood, Wave Action. Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Monmouth County Department of Public Works & Engineering	State of New Jersey, Monmouth County	\$2 million	2 - 6 years	New 2026	
Action 46	Compton's Creek/Shoal Harbor Jetty Repairs and Rehabilitation	Repair and rehabilitate Compton's Creek/Shoal Harbor Jetty.	Flood, Wave Action. Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Monmouth County Department of Public Works & Engineering	State of New Jersey, Monmouth County	\$4 million	1 - 6 years	New 2026	
Action 47	Construct Metal Storage Building at Highway District No. 10 for Relocation of Highway District No. 8	Construct metal storage building at Highway District No. 10 for relocation of Highway District No. 8.	Flood, Wave Action. Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Monmouth County Department of Public Works & Engineering	State of New Jersey, Monmouth County	\$7.5 million	1 - 3 years	New 2026	
Action 48	Maintaining, Updating, and Hard Armoring (as needed) Bridges and Roadways	Maintain and update, as needed, including A-51, Hockhockson Road, Colts Neck Township, Bridge (overtops and is considered functionally obsolete); F-26, Three Brooks Road, Freehold Township, Bridge overtops, (3) x 48" RCP; H-5, Palmer Ave, Holmdel Township, Bridge overtops; H-7, Middle Road, Holmdel Township, Bridge and approaches overtop; H-9, S. Laurel	Flood, Wave Action. Nor'easter, Hurricane and Tropical Storm, Storm Surge	Low to High	Monmouth County Department of Public Works & Engineering	State of New Jersey, Monmouth County	\$41,000, 000.00	2 to 5+ years	New 2026	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
		Ave, Holmdel Township, Overtopping pipe; HL-9, Howell Road, Howell Township, Overtops, bridge (is in poor condition); HL-11, Wycoff Mill Road, Howell Township, Overtops, 5 ft RCP; HL-19, Friendship Road, Howell Township, 36" CMP, overtops; HL-80, Friendship Road, Howell Township, 30 inch RCP, overtops; HL-22, Aldrich Road, Howell Township, Bridge overtops (over all condition is fair, structure is considered functionally obsolete); HL-64, Southard Ave, Howell Township, Bridge (overtops and is considered to be SD) (under design); MA-10, Matawan Ave, Matawan Borough, Pipe overtops; ML-17, Station Road, Marlboro Township, Overtops (under design); ML-18, Station Road, Marlboro Township, Overtops (under design); ML-19, Station Road, Marlboro Township, Overtops (under design); MN-35, CR 527, Englishtown Borough, 24" pipe overtops; MN-31, CR 527, Englishtown Borough, Bridge (overtops, structure is functionally obsolete); MN-34, CR 527, Englishtown Borough, Bridge (overtops structure is functionally obsolete) (recently repaired); MN-36, Pension Road, Englishtown Borough, Bridge overtops; MN-56, Tennent Road, Manalapan Township, Bridge overtops; MN-57, Pease Road, Manalapan Township, Bridge overtops; MN-58, Pease Road, Manalapan Township, Pipe overtops; MN-59, Comack Lane, Manalapan Township, Bridge overtops (fair condition); MT-9, Cherry Tree Farm Road, Middletown Township, Bridge								

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
		<p>overtops; MT-13, Sleepy Hollow Road, Middletown Township, Bridge overtops; MT-14, Sleepy Hollow Road, Middletown Township, Bridge overtops; MT-15b, Stillwell Road, Middletown Township, Overtops; MT-17a, Grand Ave, Middletown Township, Pipe overtops; MT-17b, 7th Ave, Middletown Township, Pipe overtops; MT-33, Middletown-Lincroft Road, Middletown Township, 5' RCP, overtops; MT-46, Middletown-Lincroft Road, Middletown Township, 4' RCP, overtops; MS-9, Red Valley Road, Millstone Township, Bridge overtops; N-17, East End Ave, Neptune City Borough, Approach roadway overtops (under design); N-23, N. Riverside Drive, Neptune Township, Pipe overtops; R-8, Union Ave, Union Beach, Pipe overtops; R-9, Union Ave, Union Beach, Pipe overtops; R-18, Florence Ave, Keyport Borough, Pipe overtops; R-19, Green Grove Avenue, Hazlet Township, Pipe Overtops; R-32, Florence Ave, Hazlet Township, Pipe Overtops; R-33, Florence Ave, Keyport Borough, Pipe overtops; S-12a, Walter Street, Tinton Falls Borough, Pipe overtops; W-18a, Allenwood Road, Wall Township, Overtops; W-43, Ocean Road, Belmar and Avon Boroughs (Install permanent Emerg. Generator for bascule bridge) (under design; preliminary study); and U-73, Imlaystown-Hightstown Road, Upper Freehold Township, Bridge (overtops, poor condition, considered structurally deficient) (under design).</p> <p>Replace or elevate County bridges</p>								

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
		<p>and culverts. Such projects may include the replacement of a County bridge or culvert and/or elevating the approach roadway above the flood elevation or to accommodate the new bridge structure. Project locations include, but are not limited to, the following: County Bridge H-5 H-5A, Palmer Ave (CR 7), Holmdel Middletown; County Bridge MA-11, Aberdeen Rood, Matawan; County Bridges ML-17, ML-18, ML-19, Station Rd., Marlboro; County Bridge R-5, Florence Ave (CR 39), Union Beach; Union Ave (CR 39), Union Beach.</p> <p>Hard armoring of creek and riverbanks and shorelines is not always possible or desirable. In most areas of the County, the only way to mitigate the results of flooding is to anticipate for, maintain, and provide efforts to recover after an extreme event. Thus, it is essential to inspect and maintain the structural integrity of County infrastructure and to perform activities to remove debris and sediment that may negatively affect the flow of surface water in and around this infrastructure. This includes activities such as removing debris from underneath low-lying bridges and culverts, clearing sediment build-up, or repairing embankment erosion on riverbanks near County infrastructure. Also, repairing and cleaning stormwater drains and other drainage systems.</p> <p>Due to the location of coastal bridges, the substructure is highly susceptible to scour and the effects of waves,</p>								

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		tides, and storm surges. Installing hard armoring (i.e. rip rap, jetty stone, and/or steel sheeting) would mitigate this coastal erosion that jeopardizes County bridges and the roads they carry. One such bridge, previously mentioned in this action, is Monmouth County Bridge W- 43 over the Shark River in the Boroughs of Avon-by-the-Sea and Belmar. Bridge W-43 carries Ocean Ave. (CR 18). Other potential bridges include but are not limited to; S-31 (Middletown, Rumson), 5-32 (Rumson, Sea Bright), and W-9 (Brielle, Manasquan).								
Action 49	Perform Stormwater/Flood Studies.	Perform stormwater/flood studies in Township of Neptune, Borough of Neptune City, and Borough of Bradley Beach.	Flood, Wave Action. Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Monmouth County Department of Public Works & Engineering, Township of Neptune, Borough of Neptune City, Borough of Bradley Beach	Grant	\$250K	1 - 3 years	New 2026	
Action 50	Improve Belford Ferry Terminal	The Ferry Terminal is on Compton's Creek on the Sandy Hook Bay. The building and marine elements may need structural improvements to protect against wave action.	Wave Action	High	Monmouth County Department of Public Works & Engineering	Grants	\$5M	1 - 3 years	New 2026	

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
Action 51	REPI Encroachment Protection Agreement	Multi-year Agreement between NWS Earle, Monmouth County, and Monmouth Conservation Foundation to acquire conservation easements over developable parcels near NWS Earle. REPI provides up to 50% of the total cost of the transaction.	Water Quality, High-Density Development, Flood Risk	Medium	Monmouth County Division of Planning, Naval Weapons Station Earle, Monmouth Conservation Foundation	Readiness and Environmental Protection Integration (REPI)	\$3,000,000.00	3 years	New 2026	Targets conservation easements over two parcels in FY25-26, with two additional parcels in FY26-27.
Action 52	REPI Challenge Military Installation Coastal Resilience	Cooperative Agreement for Installation Resilience Services in support of NWS Earle with Monmouth University Urban Coast Institute to further develop concepts and permitting for coastal sites in Raritan Bayshore and Atlantic Ocean communities in Monmouth County. Supports planning and permitting on 3 projects in County; Cliffwood Beach Restoration in Aberdeen Twp, Veterans Park Living Shoreline in Highlands, and Sylvan Lake Living Shoreline in Avon & Bradley Beach.	Flood Risk Reduction, Wildfire, Stormwater, Water Quality, Habitat Enhancement	Medium	Monmouth University Urban Coast Institute, Naval Weapons Station Earle	Readiness and Environmental Protection Integration (REPI)	\$1,000,000.00	5+ Years	New 2026	
Action 53	Ware Creek Marsh Restoration	Executed under Cooperative Agreement w/ Monmouth University Urban Coast Institute. Planning and permitting to designate site as beneficial reuse location for channel dredging.	Flood Risk Reduction, Stormwater Conveyance, Habitat Enhancement, Sea Level Rise Adaptation	Medium	Monmouth University Urban Coast Institute, Naval Weapons Station Earle, Monmouth County	Department of the Navy, National Fish and Wildlife Fund, REPI	\$550,000	2025-2029	New 2026	Goal to elevate marsh, restore flow to channels, eradicate phragmites and restore spartina, protecting bordering County and navy infrastructure.
Action 54	Cliffwood Beach Stabilization & Restoration	Executed under Cooperative Agreement w/ Monmouth University Urban Coast Institute. Construction phase of project developed by REPI.	Coastal Erosion, 100-yr and nuisance flooding, Dune Restoration	Medium	Monmouth University Urban Coast Institute, Naval Weapons Station Earle, Aberdeen Twp	REPI, Aberdeen Township	\$7,500,000	2025-2029	New 2026	Project goal replenishes beachfront, installs t-groin protection structures, and establishes vegetated dune system to protect municipal park and roadway.

Action	Name	Description	Hazards Addressed	Priority	Responsible Party	Potential Funding	Cost Estimate	Timeline	Action Status	Notes
Action 55	NWS Earle Oyster Restoration Research Area	Several projects lead by Monmouth University Urban Coast Institute to study the reintroduction and establishment of oysters within NWS Earle's restricted waterway.	Habitat Enhancement, Storm Surge, Water Quality	Medium	Monmouth University Urban Coast Institute (Lead), Naval Weapons Station Earle	Office of Naval Research, National Fish and Wildlife Fund	\$3,000,000	2022 - Present	New 2026	Includes oyster research site, Atlantic Highlands Test Bed. Congressional District 6 sponsorship.
Action 56	Oysters at Naval Weapons Station Earle Ecosystem Restoration Area	Project lead by United States Army Corps of Engineers New York District to deploy a 10-acre oyster reef within NWS Earle's Restricted Waterway.	Storm Surge, Coastal Erosion, Habitat Enhancement	Low	USACE NY-District, NJDEP, Monmouth University Urban Coast Institute, Naval Weapons Station Earle	USACE, NJDEP, US Navy, REPI	\$10,000,000+	2024-Present	New 2026	
Action 57	Ware Creek Nature-Based Shoreline Stabilization Project	Nature-based protection along the Monmouth County and US Navy owned shorelines adjacent to Naval Weapons Station Earle that includes oyster reef breakwaters and marsh restoration aimed to create habitat and protect the Navy's infrastructure and Ware Creek marsh. Current project includes design and permitting being funded by NFWF.	Flood, Wave Action, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Habitat Loss		US Navy, Monmouth University, NY/NJ Baykeeper	National Fish and Wildlife Foundation (NFWF), FEMA, NOAA	\$5 Million	Design and Permitting: Ongoing  Construction: 2 years	New 2026	