



Municipal Resilience Program Action Grant Funded Project Descriptions

2019 Cohort

Grantee: Barrington

Project Name: Resilience Improvements Projects: Walker Farm, Bowden Avenue, and Opechee Drive

Award: \$201,000

Walker Farm is a 48.5-acre Town-owned site comprising ecologically significant upland, salt marsh, and ponds habitats located along the Barrington River. The site has an active recreational and agricultural component and hosts a municipal services facility. Rather than attempt to block floodwaters and impending sea level rise, the project adapts the site to these conditions by enhancing natural ecosystem functions and relocating recreation areas. Specifically, the project will reconfigure the shoreline to increase stormwater filtration, wave buffering, and flood storage; restore native plant buffers and salt marsh to stabilize the shoreline; and move recreation areas landward to provide areas for floodable open space as needed.

The Town-owned rights-of-way off Bowden Avenue and Opechee Drive, located along the Barrington River, are used for shoreline access and stormwater runoff conveyance from residential areas. Roadway improvements will use permeable, renewable gravel and ground stone surfaces instead of asphalt. Other improvements include removing invasive plants, installing stormwater filtration/infiltration areas, improving bank areas affected by coastal erosion, and installing educational signage about coastal green infrastructure. The improved flow of water over the sites will better store and absorb flood water, as well as reduce flood-related damage to roads.

Grantee: Portsmouth

Project Name: Stormwater Inland Flooding Climate Adaptation Project

Award: \$199,000

Portsmouth will use action grant funding to redesign and improve drainage infrastructure at the entrance to the Common Fence Point neighborhood. Period street flooding can compromise the only emergency evacuation route for the neighborhood, creating a public safety concern for the roughly 700 households in the area. To improve drainage and redirect stormwater runoff,

Portsmouth will install two new rain gardens, clean existing wetlands, rehabilitate catch basins, and re-contour the roadside along Anthony Road.

Grantee: Portsmouth

Project Name: Melville Dam Rehabilitation

Award: \$140,000

The Town of Portsmouth used action grant funding to help offset the costs of completing ongoing rehabilitation of the Melville Dam in anticipation of the increased intensity and frequency of major storms due to climate change. The earthen dam performs a critical role in flood control for downstream economic and environmental resources. In addition, the dam protects a wetlands environment situated within a popular recreation area. This project was the final step in the Portsmouth Department of Public Works' effort to remove excessive vegetation growth that was impeding regularly required dam inspections. Funding supported efforts to remove stumps, roots and vegetation; re-grade the existing slope; and apply loam and hydroseed as a final stabilization measure. The Melville Dam Rehabilitation project was completed in April 2021.

Grantee: Warren

Project Name: Stormwater Mitigation at Public Access Points

Award: \$156,000

This project will allow the Town of Warren to incorporate natural stormwater mitigation practices at several public rights-of-ways that terminate at the edge of waterways. Currently, many of the rights-of-ways have hard surfaces that create unnecessary stormwater runoff and erosion and contribute to increased levels of pollutants entering waterways. The Town will replace pavement with loam and vegetation and install filter fabric and rip rap. The Town previously worked with Save The Bay, Fuss & O'Neill, and the Rhode Island School of Design to develop conceptual designs for these rights-of-ways as part of a coastal adaptation pilot program.

Grantee: Westerly

Project Name: Old Canal Street Pump Station Flood Protection Wall

Award: \$191,000

The Old Canal Street Pump Station Flood Protection Wall project involves improvements to the Westerly wastewater treatment system that will limit discharge quantities, limit overtopping by floodwaters, and improve water quality in the Pawcatuck River. The Town of Westerly will install a concrete footing and flood protection wall around the perimeter of the pump station located at 20 Canal Street. Without this project, the station is vulnerable to flooding during extreme weather. Flooding of the station would cause tremendous strain to the system and potentially lead to a pump failure, triggering a Sanitary Sewer Overflow of raw sewage flowing directly into the Pawcatuck River.

Grantee: Westerly

Project Name: Springbrook Road Rain Garden and South/West Fairway Infiltration Basin

Award: \$87,936

The Town of Westerly will use action grant funding to implement two projects to address stormwater runoff and water quality issues. The first project entails the installation of rain gardens on Springbrook Road near the entrance to Springbrook Elementary School. The rain gardens will capture and infiltrate stormwater runoff, which will improve the water quality of Pawcatuck River and mitigate safety issues that occur when stormwater runoff collects and freezes alongside the road. The second project will install an infiltration basin on the Winnapaug golf course near the intersection of South and West Fairway. The basin will slow the movement of road drainage discharges to the golf course and into Winnapaug Pond.

2020 Cohort

Grantee: Bristol

Project Name: Watershed Restoration at the Bristol Golf Course, Phase II

Award: \$222,863

This project will address downstream flooding and water quality and habitat degradation within two watersheds resulting from historical alterations to wetlands and two streams at the Bristol Golf Course. Today, the golf course provides few natural wetland benefits and precipitation runs unchecked to impoundments and watercourses on the property and eventually flows downstream. Permitted work includes restoring ponds and impoundments within the golf course, removing fill and culverts and “daylighting” streams, and restoring a buffer of native shrubs, trees and grasses between the active course and wetland resource areas. Work will increase flood storage capacity and enhance functions of freshwater wetland habitat within the property as well as address concerns for downstream flooding in both the Towns of Bristol and Warren and improve resiliency and asset protection.

Grantee: Little Compton

Project Name: Stormwater Management Program

Award: \$164,000

The Town of Little Compton will use action grant funding to implement three projects intended to mitigate stormwater runoff and flooding on town roads and public spaces. The South Shore Beach Parking Area project includes the installation of a sediment forebay and dry swale to capture and treat stormwater runoff, provide sediment capture, and encourage infiltration. The Town Way project will install a drainage retention area to collect and retain stormwater along a public right-of-way and help limit erosion of the roadway, reduce the flow of sediments into the ocean, and improve a parking area with low-impact design. The John Dyer Road project will install a detention area for storm flow drainage to reduce the flow of stormwater and sediments across roadways, into neighboring properties, and into the Westport River.

Grantee: Newport

Project Name: Almy Pond/Spouting Rock Drive Restoration

Award: \$180,990

This project will remove unnecessary infrastructure at Almy Pond, one of the most distressed bodies of water in the state, and restore the surrounding meadow and marsh. Specifically, the City of Newport will remove approximately 25,200 square feet of pavement from Spouting Rock Drive and its associated catch basins, which were built in the 1990s to service an illegal sub-division. Removal will expand the drainage buffer around the pond, improve local water quality, and allow the pond to act as a more effective buffer against stronger and more frequent storms anticipated as a result of climate change.

Grantee: Pawtucket and Central Falls

Project Name: Pawtucket-Central Falls TOD District Stormwater and Streetscape Improvements

Award: \$400,000

The Cities of Pawtucket and Central Falls will use action grant funding to improve and upgrade aging infrastructure in the joint Transit Oriented Development (TOD) District around the Pawtucket-Central Falls train station and transit hub opening in mid-2022. Improvements include new street trees, stormwater improvements with additional green infrastructure, new sidewalks, bicycle-friendly infrastructure, and new crosswalks. Both cities are particularly vulnerable to high precipitation events and heat waves due to high levels of impervious surfaces (86% of the TOD District is impervious) and aging stormwater infrastructure with limited capacity. The planned stormwater and streetscape improvements will make the area more accessible to pedestrians and cyclists while also improving air quality, reducing the heat island effect, and mitigating flooding issues.

Grantee: Warwick

Project Name: Oakland Beach Nature Based Resiliency Enhancements

Award: \$225,000

This project involves the construction of a bioretention stormwater system and coastal embankment restoration in the seaside community of Oakland Beach. The bioretention system is a nature-based solution that will help reduce flooding and minimize bacterial pollution in Greenwich Bay by intercepting and treating stormwater runoff before it discharges into coastal waters. The coastal embankment restoration will help reduce and prevent erosion of the existing beach area, increase wildlife habitat, and enhance the overall aesthetics of the area. This project is part of a larger effort supported by local, state, and federal agencies to incorporate nature-based resilience solutions along the coastline of Oakland Beach that will increase the public's enjoyment of the shoreline by expanding public access and recreation opportunities.

Grantee: Woonsocket

Project Name: Blackstone River Vision Report Implementation

Award: \$150,000

This project will implement three green infrastructure projects identified in the Blackstone River

Vision Report. The projects will divert stormwater from the City's gray infrastructure and reduce flow rates and pollutant loads of stormwater entering the Blackstone River, an impaired waterway. The proposed projects are (1) vegetated swales at River's Edge Park, (2) vegetated swales and rain gardens at Bernon Memorial Park, and (3) permeable paving, stormwater planters, gravel and sand filtration, and underground water storage at City Hall's parking lot.

Grantee: Woonsocket

Project Name: Iron Rock Brook at Mendon Road

Award: \$150,000

This project will address recurring flooding at Iron Rock Brook and Mendon Road. Currently, an undersized culvert results in flooding at a residential property and across the state-owned Mendon Road during heavy rain events. This is a public safety concern as vehicles attempt to pass the flood section and a public health concern as floodwaters can infiltrate and overflow the local sewer system, causing untreated sewage to be introduced into the environment. The City of Woonsocket will increase culvert capacity so more stormwater can be managed. If feasible, a nature-based, green infrastructure solution will also be included upstream to help capture stormwater and reduce overall demand on the culvert.

2021 Grant Awards

Grantee: Barrington

Project Name: Shoreline Adaptation & Resilience Project

Award: \$249,521

The Town of Barrington will use grant funding to support four key resilience actions: shoreline adaptation, upgradient tree trench Best Management Practices, a municipal tree nursery, and community engagement. Projects will take place at six locations. At Woodbine Avenue, Adams Avenue, Watson Avenue, Clark Road, and Water Way, the Town will remove invasive plant material and excess asphalt; install new inlet structures, sediment forebays, riprap, infiltration basins, and native plantings; and enhance visitor experience through restoring pedestrian public shoreline access and placing green infrastructure educational signage. In addition, upland from these coastal sites, corresponding tree box filters will be placed to treat stormwater and promote infiltration ahead of interaction with each coastal area. At the sixth site, the Municipal Tree Nursery, which provides native trees to support tree box filters across Town, fencing will be placed to protect growing trees from deer and tree species will be selected for resilience to climate change impacts. The six projects, which will address flooding, water quality, and high temperatures, will be supported by Town community engagement efforts regarding stormwater, green infrastructure, and tree planting.

Grantee: Bristol

Project Name: Improving Coastal Resiliency at Independence Park

Award: \$461,500

The northern end of Independence Park provides public access to Narragansett Bay and includes a public boat ramp, a dinghy dock, kayak racks, and an entrance to the East Bay Bike Path. However, this area currently has oversized impervious surface area, uncontrolled stormwater runoff, and severe erosion, creating both flooding and water quality concerns. This project will remove approximately 4,000 square feet of unneeded impervious pavement at the waterfront, provide green infrastructure Best Management Practices including bioretention areas, porous or grass pavers, and other infiltration techniques to treat stormwater, and provide an improved landscaped area and safer public access between the East Bay Bike Path, the parking area, and the Bay.

Grantee: Central Falls & Pawtucket

Project Name: Pine Street North: Green Stormwater Parklets

Award: \$678,600

This project builds upon a past MRP Action Grant funded project, which aims to bring stormwater infrastructure and improved pedestrian and bike access along the Pine Street corridor in the Pawtucket-Central Falls Transit Oriented Development (TOD) District. This corridor serves as a major connection between the two municipalities and to the Pawtucket-Central Falls train station opening in late 2022. The Towns will use this new round of MRP Action Grant funds to create two parklets, one in each city, designed to manage stormwater as well as to provide public gathering areas along the Pine Street corridor. These parklets, located at Conant Street and Rand Street, will include permeable pavers, bioretention planters, furnishings, and shade structures to invite residents and workers to enjoy these outdoor spaces. The Rand Street parklet will serve as a gateway to the Transit Oriented Development (TOD) District, and the Conant Street parklet will be adjacent to new housing opportunities, including a building being rehabbed by Shri Service Corps to include both affordable housing units and health and wellness services to children, the elderly, and people with disabilities.

Grantee: Cumberland

Project Name: Valley Falls/Lonsdale (VFL) Urban Forestry Municipal Resilience Project

Award: \$250,000

The Town of Cumberland will plant one hundred ninety-six (196) trees at twenty-six (26) locations throughout the Valley Falls and Lonsdale neighborhoods. These neighborhoods are densely populated and have been identified as need areas through American Forests' Tree Equity Score Analyzer, which evaluates data on tree canopy cover, surface temperature, and demographics such as income, age, race, and health to determine where lack of trees is contributing to economic and social disparity. This tree planting will restore the area's urban forest and, in doing so, will provide stormwater management and cooling benefits.

Grantee: Cumberland

Project Name: Industrial Road, Largest Commercial District, Chronic Flooding - Install a Stormwater Drainage System

Award: \$500,000

Industrial Road, Cumberland's largest commercial district, experiences chronic flooding. In this

area, twenty-nine of the Town's largest employers have experienced business loss and disruption with increasing frequency as flooding has increased with climate change impacts, and vehicles have become trapped during flash flood events. This project will enhance Cumberland's stormwater management system along Industrial Road, using a combination of green and gray stormwater management techniques. The existing undersized and outdated stormwater infrastructure will be replaced with updated structures, and roadside plantings, absorbent gardens, and tree filters will be installed along the roadway to further address flooding and water quality concerns.

Grantee: East Providence

Project Name: Stormwater Infiltration and Flood Protection in East Providence

Award: \$225,000

The City of East Providence will implement three climate resiliency projects that together will improve stormwater infiltration, erosion control, and water quality at two public parks, and will strengthen flood protection at a city pumping station. The Beach Road stormwater improvement project will install two catch basins, six rows of infiltration chambers, and native plantings where the roadway ends at the coast, preventing runoff and erosion as well as improving public access to the water. The Silver Street pump station project will install flood proof doors, remove an underground storage tank, and replace it with a new above ground tank to house the generator (raised above the 100-year flood elevation), which will protect this critical sewage pumping station from future floods and hazardous weather events. The Willet Pond improvement project will remove 2,700 square feet of impervious area and replace the remaining 11,880 square feet of the existing parking area and driveway with crushed stone and pervious pavement, which will improve stormwater infiltration and water quality at this public recreation area.

Grantee: Newport

Project Name: Pine Street Community Resiliency Project through Pavement Removal, Stormwater Management and Public Access Enhancement

Award: \$58,982

Pine Street ends at the southern edge of Battery Park, overlooking Newport Harbor and the Point neighborhood. Currently, stormwater runoff from Pine Street flows down to Blue Rocks, a public access site to Narragansett Bay, which has been hardened with asphalt. This project would remove this impervious pavement, replacing it with a permeable walking path, landscaping, infiltration swales, and updated sidewalks and curbing at its entrance. The project will not only improve public access to the waterfront, but will also provide erosion control, water quality, and stormwater management benefits.

Grantee: North Kingstown

Project Name: Roger Williams Drive End of Road Retrofit

Award: \$24,217

At the end of Roger Williams Drive, which extends toward Wickford Cove, the Town will mitigate the impacts of the stormwater flow by removing unnecessary pavement and installing grassy areas, a sediment forebay, and a sand filter. These measures will address erosion and provide

stormwater management benefits on site by slowing runoff, increasing infiltration, and catching sediment before it discharges into the cove. The existing scrub shrubbery at the end of the ROW will remain in place as a natural buffer and infiltration area.

Grantee: North Kingstown

Project Name: Wickford Waterfront Improvements

Award: \$647,365

This project will implement low impact stormwater management with enhanced green infrastructure to adapt to changing coastal conditions, mitigate stormwater runoff, and address high tide flooding at the municipal waterfront parking lot, known as the Brown Street Parking Lot, in Wickford Village. These improvements are part of a multi-tiered approach to expand recreational, cultural, and civic opportunities in Wickford, as well as to address climate change impacts including sea level rise and increasing storm surges. The MRP Action Grant will support elevating the lowest segments of the Brown Street Parking Lot that are susceptible to flooding, removing existing impervious pavement, and installing pervious pavers around the exterior of the parking lot. The project will also include the installation of tide gates and bioretention basins. These additions will minimize nuisance flooding in the area and reduce pollutants entering the harbor.

Grantee: Portsmouth

Project Name: Stormwater Inland Flooding Climate Adaptation Projects (SWIFCAP) II

Award: \$140,000

The Town of Portsmouth will build off of a previous MRP Action Grant award to continue providing stormwater management projects that address increased intensity and frequency of major storm events due to climate change. Two projects will be implemented. At Riverside Street, the Town will install an underground stormwater injection facility below the roadway in an area subject to constant flooding in major storms. Stormwater will be captured through catch basins and piped into a galley-type structure or gravel trench system designed to improve stormwater infiltration. At Founders Brook, dredging will take place to widen, deepen, and enhance 560 of natural watercourse, removing silt and vegetation buildup without hardening or channelizing the Brook, with the aim of reducing flooding at nearby Boyd's Lane.

Grantee: Providence

Project Name: Mashapaug Watershed Water Quality Improvements

Award: \$470,000

Mashapaug Pond is an impaired waterway that is the main feed for the Roger Williams (RW) Park ponds and contributes to Phosphorus loading to these ponds. The combination of increased flooding due to climate change (which brings more Phosphorus to the Mashapaug and RW Park ponds), as well as increased heat (which allows algae that use nutrients like Phosphorus to grow faster), is leading to more frequent blue-green algal blooms in these ponds and public health hazards. With this grant, Providence's Parks Department will install a "treatment train" in line on the pipe at the Roosevelt Lake outlet, including a jelly fish filter, a bio-char platform with a wet vegetated swale, and additional adjacent green infrastructure elements to handle overflow in

larger rain events. Not only will this installation address the Phosphorus contamination, but it will also allow for testing of innovative stormwater management methods to add to the RI Stormwater Manual and Rules. Testing ports will be installed before and after each treatment element to test effectiveness of each installation. This site will also serve as a training site for RIDOT maintenance personnel on these innovative stormwater treatment techniques.

Grantee: Providence

Project Name: Emergency Generators for Davey Lopes Recreation Center and Elmwood Community Center

Award: \$375,000

The City of Providence will install emergency generators at two (2) City-owned community centers: Davey Lopes Recreation center and Elmwood Community center. The generators will keep the centers operational and functional during times of adverse weather hazards/events which have been exacerbated by climate change. With the generator installations, these centers will be able to provide shelter during storms and extreme heat and cold events, creating an additional level of public safety measures for the City's constituents who regularly use, and live near, these centers. Public engagement has highlighted that these centers will significantly benefit from these generators as they serve disadvantaged populations, with both centers serving thousands of families who reside in a majority low-moderate income area within Providence. In addition, as a part of this MRP Action Grant, Providence will also begin the process of developing these centers as Resilience Hubs, which will provide shelter and resources to meet community needs during extreme events, provide information and engagement on the topic of climate resilience, and transition to clean-energy systems in line with City-wide resilience goals.

Grantee: Tiverton

Project Name: Fogland Beach and Conservation Area Stormwater Mitigation and Restoration Project

Award: \$228,425

This project addresses longstanding challenges at Fogland Beach, Tiverton's largest and most important recreational beach, and Fogland Conservation Area, a relatively intact and healthy salt marsh threatened by stormwater runoff and sea level rise. The entire project area is bisected by Three Rod Way, a town roadway that serves over twenty year round and summer homes located on Fogland Point. This project combines several elements to mitigate stormwater runoff along Fogland Road and Three Rod Way, restore natural hydrology of the 7+ acre Fogland Marsh, relocate existing infrastructure, and create natural sand dunes to provide storm surge resilience to the area. The Town will install infiltration areas and swales, install a trench drain under Three Rod Way, conduct regrading to restore the hydrology at the skating pond, expand the dunes and further stabilize with beach grass, excavate runnels in the marsh to restore nature hydrology and allow impounded water to drain, and relocate the existing ticket booth to a less flood prone area.

Grantee: Warren

Project Name: Fern Drive Drainage Improvements

Award: \$104,000

This project will improve the drainage infrastructure and stormwater management within the cul-de-sac on Fern Drive by installing green infrastructure Best Management Practices (BMPs). The Town of Warren will install three bioretention tree filters to mitigate flooding on the abutting residential properties on the cul-de-sac, as well as to provide water quality treatment and reduce the flow of runoff to the Town's drainage network.

Grantee: Westerly

Project Name: Greening Downtown Westerly - A Main Street Renaissance

Award: \$500,000

This project will install nature-based stormwater infrastructure at several locations along Main Street in Westerly, RI, serving as a nature-based solutions demonstration project that will achieve the goal of revitalization of Downtown Westerly while also improving the water quality of the adjacent Pawcatuck River, reducing flooding, reducing heat, and increasing green space. Installations will include tree planters, rain gardens, parking lot infiltration medians, planted streetscape buffers, bioswales, stormwater infiltration planters, pervious pavers, and pervious parking.