

**Attachment A: Application**

**2021 Municipal Resilience Program Grant Application Form**

**Municipality:** Town of North Kingstown

**Project Title:** Roger Williams Drive End of Road Retrofit

**Type of Project (select all that apply):**

Redesigns and Retrofits of existing infrastructure and natural areas

Energy Resilience Strategies

Flood Protection, Drought Prevention, Water Quality, and Water Infiltration Techniques

Solutions to Reduce Vulnerability to Extreme Heat and Poor Air Quality

Nature-Based Solutions to Reduce Vulnerability to other Climate Change Impacts

Other - please describe: \_\_\_\_\_

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**Proposed Funding:**

Total Project Cost: \$ 33,216.70

Grant Request: \$ 24,216.70

Municipal Match (at least 25% of grant request): \$9,300.00

### **Project Summary** (1-2 short paragraphs describing the project):

The project area includes the end of the Roger Williams Drive right-of-way (ROW) that extends towards Wickford Cove. The end of the ROW into the cove is in an AE13 zone. The existing pavement at the end of the ROW is in poor condition and deteriorating. There is evidence of both sediment accumulating as well as erosion occurring at the end of the ROW. There are no stormwater mitigation measures in place at this time. There is an existing driveway located off this portion of the ROW approximately 20' from the intersection with Hopedale Drive. The town is looking to mitigate the impacts of the stormwater flow by removing the pavement from the ROW starting 10' south of the driveway extending towards the cove. Grassy areas, a sediment forebay and sand filter will be installed to allow sediment in the runoff to settle out before discharging into the cove. This will slow runoff and prevent erosion of material into the cove. The existing scrub shrubbery at the end of the ROW would remain in place as a natural buffer and infiltration area.

This project was included in the Shoreline Adaptation Inventory and Design (SAID) project sponsored by CRMC, Save the Bay, URI Coastal Resources Center, RI Sea Grant and RWU Marine Affairs Institute. The SAID projects address the impacts of coastal storms, sea level rise and stormwater such as erosion, flooding, and loss of habitats and shoreline public access. They help to improve the resilience and safety of the shoreline while increasing the benefits of natural systems such as water quality improvement and enhancement of habitat for fish and wildlife. This SAID project will be easily implemented at this location. There is sufficient space to accommodate the stormwater mitigation measures. Given that there are no mitigation measures in place under existing conditions, removing the pavement, installing stormwater BMPs as outlined will provide erosion reduction and help to mitigate the impacts of stormwater runoff from the surrounding upland areas before it enters Wickford Cove.

### **Project Narrative**

Please provide your full project narrative using the prompts. See Section 3A in the RFR for more specifics on each criterion. Use the rating system as a guide for what information should be included in the narrative to ensure the maximum score possible for your project. Responses should be concise (maximum 400 words for each section) and directly align with the prompt. Attachments such as images, drawings, letters, excel spreadsheets, etc. can be included for clarity.

- a. Problem This Project Will Address through Climate Change Adaptation –** What are the main climate change challenges in your municipality? What is vulnerable to climate change in your municipality? How will this project help to address these challenges and vulnerabilities, as part of a sustainable community approach to resilience?

As outlined in the North Kingstown MRP and Community Resilience Building Process Summary of Findings, the main climate change challenges in North Kingstown are related to the impacts of extreme weather events including: coastal flooding of critical infrastructure, bridges, roads and low-lying areas; localized flooding from stormwater runoff during intense storm events and heavy precipitation events; and property damage and utility outages from wind, snow, and ice.

The town has several vulnerabilities to climate change. As outlined in the Summary of Findings, the following are considered vulnerable: **infrastructure** (such as utility lines, impervious surfaces, historic properties, private onsite wastewater treatment systems and dams), **ecosystems** (such as trees, rivers, beaches and Mill Cove), **road networks and bridges** (such as Phillips Street, Brown Street Parking lot, Post Road and Walmesley Road), **neighborhoods** (such as Wickford Village, Mill Cove/Shore Acres, Poplar Point and Loop Drive), and vulnerable **populations** (such as the elderly/seniors, local business owners, disabled residents and low-income residents).

This end of road retrofit will help to address these vulnerabilities identified by improving stormwater infrastructure in removing impervious surface that is vulnerable to flooding, erosion and future sea level rise. It will also address the vulnerability of the Mill Cove ecosystem by treating the runoff before it enters the cove area and contribute to improving the water quality of the resource. The success of this project can be measured by seeing less evidence of erosion on the surface, improved water quality in the cove and less untreated stormwater runoff flowing over the surface. The primary driver for this project is resiliency and environmental benefits derived from the reduced erosion and improved water quality. Mill Cove is designated as Type 1/Conservation waters by the RI CRMC. It will also improve the quality of life for the area residents as the stormwater is better managed and the ROW becomes more resilient to future flooding as the area becomes more of a sponge for sea water rising in the area.

The Summary of Findings also specifically calls out this project as an action to undertake. The summary calls for seeking out “areas where impervious surfaces can be removed and/or replaced with green stormwater infrastructure and open space to increase localized infiltration in hopes of reducing flash flooding”. Impervious surface will be removed from the end of the right-of-way and stormwater best management practices will be installed including erosion control barriers, infiltration areas consisting of a sand filter, a forebay and grassy areas around the BMPs. The findings also reference the SAID project report for this end of road retrofit, implementing the findings of the MRP process.

**b. Need for Assistance – Why is this funding critical to project implementation?**

As seen across many municipalities, funding for capital projects is constrained. The Capital Improvement Program (CIP) for the town has a long list of projects that have been prioritized for implementation with limited funding. While increasingly important, stormwater and resilience-related projects have not received the funding priority needed to implement such improvements. In addition, this end of road retrofit was part of the SAID program that the town was fortunate enough to participate in at no cost. The town received design plans for this project and the project is ripe for implementation with the MRP Action grant funding. The funding would allow the project to be implemented immediately. Without this funding, the likelihood of implementation in a timely fashion is much less. The town would like to capitalize on the efforts of the SAID project and construct the improvements in a shorter timeframe than would occur without the funding. Once constructed and the benefits of the project can be seen, the town hopes other similar stormwater and resilience projects can be prioritized and implemented.

- c. **Project Description** – What is the work to be completed? What are the project tasks, how will they be conducted, and by whom? Why was this project selected among other MRP identified actions? Will the project be sustainable in the long term?

The town is looking to mitigate the impacts of the stormwater flow by removing pavement from the Roger Williams Drive ROW starting 10' south of the existing driveway at 25 Roger Williams Drive extending towards the cove. Erosion control barriers, grassy areas, a sediment forebay and infiltration area/sand filter will be installed to allow sediment in the runoff to settle out before discharging into the cove. This will slow runoff and prevent erosion of material into the cove. The intent of the project is to address the impacts of coastal storms, sea level rise and stormwater such as erosion and flooding. It will help to improve the resilience and safety of the shoreline while increasing the benefits of natural systems. This end of road retrofit will meet climate adaptation goals including better accommodating coastal storms and reducing erosion, increasing the resilience of the shoreline along Mill Cove.

The project will require finalizing the design, permitting through the CRMC, retaining a contractor to perform the work and installing the stormwater BMPs as detailed below.

1. Department of Public Works and the Town Engineer will finalize the design plans and submit permit to the RI CRMC.
2. Department of Public Works and Planning Department will prepare a request for proposals to hire a contractor to construct the improvements.
3. Department of Public Works and Planning Department will review the submitted proposals, interview the qualified consultants and select the contractor.
4. The town will post project information and educational materials on the town's web site.
5. The town will share the design and proposed installation with the Planning and Conservation Commissions.
6. Planning Department contact neighbors in the area to notify them of the proposed construction.
7. Site visit will occur with the selected contractor and residents to review in situ conditions.
8. Selected contractor will prepare the site:
  - Sawcut bituminous asphalt pavement
  - Remove and dispose of bituminous asphalt pavement
9. Selected contractor will grade and prepare the site.
  - Install erosion controls (straw wattles).
  - Perform earthwork and excavation in areas of the BMPs
  - Fine grading in the area of the BMPs
  - Place loam in proposed grassy areas
10. Selected contractor will install the stormwater improvements.
  - Install sand filter sand media
  - Install concrete sediment forebay and forebay drain
  - Spread grass seed and cover with straw mulch

The area of the proposed improvements as well as many of the surrounding parcels are located within the special flood hazard area Zone AE. The parcel directly abutting the end of the right of way becomes inundated under future sea level rise (SLR) scenarios, starting at a 1' SLR plus mean high high water. With each higher SLR scenario more of the parcel becomes inundated along with all of the parcels all along the eastern side of the ROW. The pavement removal will help mitigate these future sea level rise scenarios as they become reality.

This end of road retrofit will help to address vulnerabilities identified by the MRP CRB process by improving stormwater infrastructure in removing impervious surface that is vulnerable to flooding, erosion and future sea level rise. It will also address the vulnerability of the Mill Cove ecosystem by treating the runoff before it enters the cove area and contribute to improving the water quality of the resource. The success of this project can be measured by seeing less evidence of erosion on the surface, improved water quality in the cove and less untreated runoff flowing over the surface. The primary driver for this project would be the environmental benefits derived from the reduced erosion and improved water quality. Mill Cove is designated as Type 1/Conservation waters by the RI CRMC.

The MRP Summary of Findings report specifically identifies this project as an action. The summary calls for seeking out “areas where impervious surfaces can be removed and/or replaced with green stormwater infrastructure and open space to increase localized infiltration in hopes of reducing flash flooding”. Impervious surface will be removed from the end of the ROW and stormwater best management practices will be installed including erosion control barriers, infiltration areas consisting of a sand filter, a forebay and grassy areas around the BMPs. The findings also reference the SAID project report for this end of road retrofit.

In addition to the resilience benefits of the proposed improvements, the end of road retrofit was selected because of its the readiness for and ease of implementation. The improvements have been designed along with cost estimates. It is also a project with a low cost for the benefit gained. The project includes nature-based solutions and green infrastructure. These components will reduce the stormwater impacts and improve the water quality entering the cove. The pavement removal provides a green infrastructure treatment and helps the shoreline adapt to coastal flooding and erosion and stabilizes the area. The town will also monitor the performance of the proposed green infrastructure improvements to track performance over time and ensure they are functioning properly.

- d. **Community Benefits** – What benefits will the project deliver? Who will benefit? Will the project benefit Environmental Justice communities; underserved, marginalized, or otherwise adversely affected groups; or other disadvantaged and/or vulnerable populations? Will the project deliver multiple co-benefits? Please include in this section project location, block group, and census tract, as well as this information for other areas benefiting from project implementation.

The Roger Williams Drive end of road retrofit is located between 61 Hopedale Drive (AP 139, Lot 38) and 25 Roger Williams Way (AP 139, Lot 18). The property is located in census tract 503.02 and block group 3013. The benefits of the project are most directly to the residents of the Roger

Williams Drive neighborhood and the Mill Cove resource itself however the larger community impacts will be in the example that the end of road retrofit provides. These direct benefits include the reduction in erosion of the ROW, better management of stormwater in the area and improvement in the quality of the stormwater that is entering Mill Cove, contributing to the betterment of the resource. The residents of the neighborhood should see the benefit of better managed stormwater in and around their properties. An improved Mill Cove water quality also has larger community benefits. The town will be able to use this project to demonstrate how small improvements can still have impacts on stormwater management, resilience and water quality. Smaller-scale projects still help address larger problems within the neighborhood and community at large. The town does not always need to construct large scale stormwater management projects to have a positive impact on water quality and resilience. This model retrofit can be applied to other several other areas where the ROW meets the shoreline. One successful example can lead to many others.

- e. **Feasibility and Transferability** – How developed is the project to date? Is there strong support for the project? How can this project be a model for other similar projects in your municipality and statewide?

The town owns the ROW for the retrofit. The Town Council endorsed the town's application for funding this resilient project. The town reached out to the owners in the area and invited them to a site visit when the SAID project first commenced. Residents attended the site visit and were supportive of the improvements. The improvements also have the support of the Land Conservancy of North Kingstown and the Narragansett Bay National Estuarine Research Reserve program as well as the SAID project partner, Save the Bay. The project has been designed and is ready to submit to the CRMC for permitting, for which the town does not anticipate any regulatory issues. It is a low-cost project. The town is prepared to match the project cost with cash and in-kind services. The Planning Department will work closely with the consultant and Department of Public Works on management and oversight. The Town Engineer and Supervising Planner have been involved in the project design from its inception and have experience with project management, obtaining contractors and overseeing project implementation.

This project will be a model for other ROW that cross into the coastal feature. The town has 30 miles of shoreline and has many opportunities to install similar retrofits in similar ROW. The site conditions and straightforward design could be a template for other places in North Kingstown and other Rhode Island coastal communities. Town-owned ROWs that stub at the shoreline are prolific throughout the state. The project is small and easily transferable and the low project cost reduces financial barriers for implementation. One specific location where the model retrofit could be replicated locally is the end of Gregory Avenue which intersects Wickford Harbor. The pavement could be removed and stormwater BMPs could be installed like Roger Williams Drive.

The town can document the improvements with photographs and project details posted to our web site. This can include the benefits of the nature-based solutions and resilience impacts. The results of this project can also be included in our 5-year reporting to the Community Rating System (CRS) program given its location in the special flood hazard area and the relationship of the improvements to CRS activities for stormwater management and drainage system maintenance. The results can also

be shared with our Conservation and Planning Commissions. The town also has a quarterly publication, The Puddle, that is distributed in the water bills for each resident. Utilizing The Puddle would allow wide distribution, directly with the residents of the community, of the project parameters, goals and progress achieved.

**f. Community Outreach, Engagement, and Education** – How has the municipality engaged residents, organizations, and community groups to build support for the project? How will the municipality ensure engagement opportunities moving forward? Will disadvantaged and/or vulnerable populations be engaged?

As noted above, the town reached out to the residents of the Roger Williams Drive neighborhood when the SAID project was first started to inform them of the project. The project team conducted a site visit to the property where some of the residents attended, were informed of the details of the project and offered an opportunity to ask questions and have their concerns heard. The residents were supportive of the project and the proposed stormwater enhancements. As we move forward with project implementation, the town will engage the area residents to ensure they are aware of the proposed improvements beginning soon. The town will accomplish this through direct mailing to each resident in the vicinity of the retrofit. The town will plan to hold another site visit to the property before installation begins where residents can attend and ask any questions or voice concerns. The town will address the concerns of the residents and contemplate changes to the design without sacrificing the intent of the project or the success of the improvements.

The town will make the plans available to any and all interested residents. The town will also be sure to have educational materials on hand to educate the residents on the benefits of installing these resilient stormwater BMPs. The town will also direct the residents to our web site that will house additional information on the Roger Williams Drive retrofit as well as the larger SAID project and information regarding green infrastructure, nature-based solutions and resiliency. The Town Council has endorsed the town's application for the MRP funding and will approve the consultant selection when the time comes. When the consultant selection is considered by the council, the details of the project will be part of the agenda and posted to the town's web site where the larger community can learn about the project. The town will also involve the Conservation Commission as the project moves forward in the process and seek their input as needed.

**g. Incorporation of Nature-based Solutions and Strategies** – Are green infrastructure or nature-based elements included in the project?

The Roger Williams Drive end of road retrofit will include the installation of low impact design, green infrastructure and nature-based solutions offering natural flood protection, reduced erosion and improved water quality. As noted, this project was part of the SAID effort to address the impacts of coastal storms, sea level rise and stormwater such as erosion and flooding. These solutions will improve the resiliency and safety of our shoreline while increasing the benefits of natural systems such as water quality improvement. The first soft infrastructure component includes removing the pavement at the end of the ROW and replacing it with stormwater BMPs and grassy areas around those practices. Removing the pavement will address coastal flooding, reduce erosion and stabilize the shoreline. Removing the pavement will allow stormwater to be infiltrated near its

source and reduce the strain on existing infrastructure. In so doing, the impacts to water quality from the direct discharge into Mill Cove will be reduced. The proposed sand filter is a green infrastructure element to treat the stormwater flowing through the area and improve the water quality running into Mill Cove. The proposed sediment forebay is intended to remove suspended solids from runoff and also provide some water quality improvement.

This end of road location provides an opportunity for removal of pavement and the installation of green infrastructure to infiltrate stormwater runoff, reduce erosion and enhance the intertidal habitat impacted by runoff. While small in size, these improvements will still have a positive impact on the shoreline.

**Timeline** – When will the project start and finish, including key milestones?

Task	Timeline	Deliverable
1. Finalize the design plans and prepare the permitting documents for submission to the RI Coastal Resources Management Council.	May 2022	Final plans and CRMC permit.
2. Prepare and post a request for proposals to hire a contractor to construct the stormwater BMPs.	July 2022	RFP completed and posted.
3. Review the submitted proposals, interview the qualified consultants and select the contractor to assist the town with the construction.	August 2022	Consultant selected.
4. Post project information and educational materials on the town's web site.	August 2022	Web site updated.
5. Share the design and proposed installation with the Planning Commission and Conservation Commission.	August 2022	Input from the commission received.
6. Reach out to the neighbors in the area to notify them of the proposed construction.	August 2022	Letters sent to residents.
7. Site visit will occur with the selected contractor and residents to review in situ conditions.	August 2022	Site visit completed and concerns heard.
8. Prepare the site by removing the pavement within the limits shown on the design plans. <ul style="list-style-type: none"> <li>• Sawcut bituminous asphalt pavement</li> <li>• Remove and dispose of bituminous asphalt pavement</li> </ul>	September 2022	Asphalt removed and disposed of.
9. Grade and prepare the site as needed. <ul style="list-style-type: none"> <li>• Install erosion controls (straw wattles).</li> </ul>	October 2022	Site graded, erosion controls in place and loam distributed.

<ul style="list-style-type: none"> <li>• Perform earthwork and excavation in areas of the BMPs</li> <li>• Fine grading in the area of the BMPs</li> <li>• Place loam in proposed grassy areas</li> </ul>		
10. Install the stormwater improvements as designed. <ul style="list-style-type: none"> <li>• Install sand filter sand media</li> <li>• Install concrete sediment forebay and forebay drain</li> <li>• Spread grass seed and cover with straw mulch</li> </ul>	October 2022	Sand filter, forebay and seed with mulch installed.

h. **Project Management and Partners** – Who is leading the project and what groups / stakeholders are involved?

The North Kingstown Planning Department will be the project manager for this effort. The Department of Public Works and Town Engineer will also be closely consulted along with the selected contractor and area residents. The Town Council and the Planning and Conservation Commissions will also be kept up to date on the progress of the project. Our SAID partners will also be consulted as needed throughout the project. Save the Bay, Narragansett Bay National Estuarine Research Reserve, and the Land Conservancy of North Kingstown has submitted a letter of support for the project and has committed to any future involvement as needed.

The project management team includes the Planning Department, led by Planning Director Nicole LaFontaine, along with Rebecca Lamond, Supervising Planner, Kimberly Wiegand, Town Engineer and the selected consultant contracted by the town to install the improvements. Ms. LaFontaine's resume is attached to demonstrate her experience in managing projects of this nature. She has been the Planning Director for approximately 7 years and prior to that served as both Supervising and Principal Planner for 6 years. She is the Community Rating System (CRS) Coordinator for the town and has been part of not only the yearly CRS reporting submission to the Insurance Services Organization (ISO) but also two, five-year cycle visits and submissions to the ISO. Nicole has overseen the preparation and adoption of the comprehensive plan re-write, adopted in 2019. She has also managed the preparation of the local hazard mitigation plan including the most recent approval in August 2019. Nicole has been an integral part of several climate adaptation and hazard mitigation planning efforts over the last ten years. She coordinated with several partners including the University of Rhode Island (URI) Coastal Resources Center, Rhode Island Sea Grant, URI Landscape Architecture program students and professors, several local boards and commissions as well as non-profits and many state-level organizations. Ms. LaFontaine and Ms. Lamond have managed several projects in their roles as Planning Director and Supervising Planner respectively. In

addition to the project noted earlier, they have managed the implementation of the Allen Harbor Calf Pasture Point master plan with the construction of a bike path, fitness stations, signage and dog waste stations. They have also overseen the installation of the new \$100,000 playground and associated amenities at the Wickford Heritage Center. The department is also currently managing the design portion of the multi-tiered Wickford Waterfront Project. All of these projects have had or will have a public input process as a key part of the project. The team will work with the contractor throughout the course of the project to ensure it meets the project goals, tasks outlined in the RFP as well as the requirements of the grant.

See Attachment B for budget details.

- i. **Proposal Resources** – What resources did you utilize to develop this project proposal? Consider staff members, partners, and consultants who assisted (excluding services provided by The Nature Conservancy and Rhode Island Infrastructure Bank).

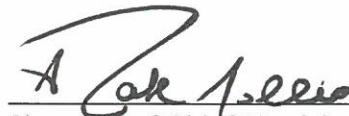
The Planning Department and Department of Public Works have coordinated together with our project partners on the design of this retrofit. This town participated in the SAID program with partners from that process that are integral to the town being able to develop this project proposal. They include CRMC, Save the Bay, URI Coastal Resources Center, RI Sea Grant and RWU Marine Affairs Institute. The project team hired an engineering firm to complete the plan design. For this retrofit, GZA, GeoEnvironmental, Inc was the project engineer.

- j. Attach **Statement of Match** (described in Section 2).

See attached.

February 10, 2022

Date



Signature of Chief Municipal Officer

Ralph Mollis, Town Manager  
Name and Title

N/A (Town manager)  
Duration of Term

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