

**Resilient Connecticut 2.0 Synthesis Report  
Appendix F**

**Municipal Resilience Grant Program  
Round 2**



## Municipal Resilience Grant Program (MRGP)

### Appendix F

#### MRGP Overview:

The Connecticut Institute for Resilience and Climate Adaptation (CIRCA) launched the second round of the Municipal Resilience Grant Program (MRGP) in 2022 after receiving state funding. The grant program was targeted at municipal governments, non-governmental organizations (NGOs) in partnership with municipalities, and councils of governments (COGs) for initiatives that advanced two specific climate priorities for the state of Connecticut: 1) implementation of stormwater authorities, and 2) development of a resilience “project pipeline.” This funding supported the state’s legislation, [An Act Concerning Climate Change Adaptation](#) (PA 21-115), and recommendations of the [Governor’s Council on Climate Change](#) (GC3). Importantly, this funding expanded the capacity of municipalities to address local resilience financing and project development needs.

Eligible applicants included Connecticut municipalities, NGOs in partnership with municipalities, and COGs. The program had two funding tracks:

#### Track 1: Stormwater Authorities – \$150,000 Available

In 2021, the Connecticut legislature passed PA 21-115, which enabled municipalities to create a stormwater authority to manage stormwater and improve resilience to climate change by assessing a scaled user fee based on the amount of stormwater a property generated. This legislation was intended to generate funding to maintain and enhance resilient infrastructure and provide matching funds for state and federal grants. CIRCA created a new fact sheet about [Stormwater and Climate Resilience](#) to provide more information.

Applicants could request up to \$100,000 for 12-month projects that supported the implementation of municipal stormwater authority programs through activities outlined in four categories. Since a goal of the program was to support transferable models for Stormwater Authority implementation, CIRCA anticipated making grants to Councils of Governments and large and small municipalities in both inland and coastal settings. CIRCA expected to make up to three awards in Track 1.

Depending on the stage of community planning, fundable Track 1 activities included the following **Technical Tools:**

- Ensure accurate parcel mapping for estimating areas of impervious surface.
- Map impervious surface areas at local sites to identify property owners who installed, operated, and maintained stormwater best management practices that reduced, retained, or treated stormwater onsite to incentivize resilience actions through stormwater authority fee reductions.

#### 2. Feasibility Study:

- Review existing stormwater facilities and regulatory requirements to determine their condition, operating costs, and areas needing improvements.
- Assess potential improvements and determined problem areas requiring immediate or more substantial funding to address persistent or projected increased stormwater impacts.
- Identify municipal boards, commissions, and agencies engaged in stormwater management.
- Review current funding for stormwater management and developed fee structures based on funding requirements.
- Design stormwater fee models, including fee collection and staff capacity for billing system development.
- Identify projects that fee revenue could fund to decrease stormwater impacts and increase resilience.

### 3. **Community Outreach:**

- Host “Does it make sense?” workshops to assess community needs and interest.
- Inform community members through meetings or outreach materials describing stormwater management, current funding systems, and equitable fee determination.
- Develop informational signage to educate the public and demonstrate how stormwater fees were being used.

### 4. **Implementation:**

- Adopt authorization ordinances enabling the stormwater authority.
- Develop processes for applying credits for land users implementing stormwater best management practices.
- Create dedicated stormwater funds included in municipal budget projections.
- Assess and collected fees.
- Keep the community informed about fund usage.

## **Track 2: Develop a Project Pipeline – \$150,000 Available**

Track 2 supported CIRCA’s goal to accelerate the implementation of projects to improve the resilience of the state’s natural and built environments, as well as the GC3 priority to create a resilience project pipeline. Municipal Hazard Mitigation Plans, Plans of Conservation and Development, and municipal resilience plans identified specific projects addressing the impacts of climate change. Track 2 assisted municipalities in developing and submitting competitive proposals for state and federal programs that would fund resilience project implementation.

CIRCA awarded a total of \$150,000 in Track 2. Applicants could request up to \$50,000 for projects implemented within 12 months. Funding was available for advancing projects in various stages of the “project pipeline,” including:

1. Preliminary designs leading to benefit-cost analysis (BCA).

2. BCA and other specific studies (e.g. environmental assessments, data collection, and/or development of project cost estimates) that support application(s) to federal funding sources
3. Application materials for submittal to federal funding sources (e.g. FEMA's [Hazard Mitigation Assistance \(HMA\) Program](#) and NFWF's [National Coastal Resilience Fund](#)).

### **Additional Application Materials for Submission**

A webinar to learn more about this grant funding was held on **January 7, 2022** from 12:00 – 1:00 pm. [WATCH RECORDING](#)

Listen to a December 16, 2021 [CT DEEP Climate Solutions webinar](#) on the topic of Track 1 - Stormwater Authorities.

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## **Awarded Projects**

The following projects, organizations, and award amounts were granted in the second round of the MRGP:

### **Back River Living Shoreline Marsh Shoreline Stabilization Project Old Saybrook \$20,500**

The Back River Living Shoreline project includes the Conceptual Design (60% Plan Set) of proposed marsh shoreline stabilization and ecological restoration along an approximately 350-foot section along the south bank of the Back River within the Plum Bank Wildlife Marsh Area in Old Saybrook, Connecticut, using Natural and Nature-Based Features (NNBFs).

This project was performed as part of the CIRCA Municipal Resilience Grant Program (MRGP) Application, “Back River Living Shoreline”. This section of the Back River riverbank has been experiencing on-going and significant shoreline erosion since 1934, the year the existing Route 154 Bridge 01386 was constructed. Back River is a natural tidal marsh channel, hydraulically connecting marsh to Long Island Sound. Upstream and downstream of Bridge 01386, Back River bends sharply to the north and continues to meander throughout the marsh. The existing bridge (and proposed bridge replacement) restrain the natural meander of the channel and also constrain flow, resulting in high velocity channel and bank flow, eddies and whirlpools. This, possibly with other factors, appears to be contributing to significant erosion of bank edges, loss of marsh area, and deep channel scour holes. Significant shoreline erosion and marsh loss has specifically occurred within the area immediately west of the bridge, including the south bank of the Back River. Scour holes are located within the channel and are deep (as deep as elevation -28 feet NAVD88). These adverse impacts to coastal resources are expected to continue in the future. The observed shoreline erosion is expected to continue, resulting in on-going and significant loss of marsh. Therefore, shoreline stabilization is warranted. The channel flow velocities (which are artificially due to the bridge hydraulics) and associated shear stresses are too high to warrant shoreline stabilization using only natural vegetative materials. The proposed shoreline protection alternative is a hybrid solution that integrates a rock rip-rap revetment with sand fill, planting and

mixed oyster bags/clutches and mussels and revegetation with spartina alterniflora and spartina patens. The proposed construction is to be performed from the landside, requiring construction vehicle access over the existing High Marsh using timber mats. The project will require work seaward of the High Tide (HAT) line and the Coastal Jurisdiction Line (CJL). Details of the proposed project and an estimate of probable construction cost is presented in the report. Post-construction monitoring with maintenance is recommended. The proposed shoreline stabilization utilizes natural materials and rock armor. As a nature-based system, the proposed shoreline stabilization should be considered experimental and the long-term performance is uncertain. Also, the on-going hydraulic effects of the existing bridge (and proposed bridge) will continue to create high velocity channel flow resulting in high shear stresses on the channel bank and bottom. The existing channel scour hole appears to be advancing toward the south bank of the river, destabilizing the bank sediment. Sea level rise is expected to increase this risk. The proposed shoreline stabilization includes the use of crushed stone mattresses for the purpose of minimizing bank destabilization; however, significant advancement of the scour hole may eventually cause destabilization of the improved shoreline (as well as the existing boat ramp and pile supported docks).

For more information and products developed visit: [Town of Old Saybrook | Connecticut Institute for Resilience & Climate Adaptation \(CIRCA\)](#)

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### **Southeastern Connecticut Municipal Stormwater Utility Feasibility Study Southeastern Connecticut Council of Governments (SECOG) \$67,000**

The Southeastern Connecticut Council of Governments (SCCOG) secured a Municipal Resilience Grant from the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) to conduct a municipal stormwater authority feasibility study. Four SCCOG member municipalities, Ledyard, Preston, Stonington, and Waterford participated in the study due to interest in possibly forming a stormwater authority. In conjunction with the SCCOG, CDM Smith has been contracted to study the feasibility of establishing municipal stormwater authorities for these four municipalities.

Provided herein is documentation of the tasks completed by CDM Smith in the stormwater authority feasibility study. This report was prepared using data from several sources including municipal staff interviews, municipal and UConn GIS databases, annual budgets, and Annual MS4 Reports. This report includes an evaluation of each municipality's stormwater programs with respect to regulatory compliance, operations and maintenance (O&M), stormwater capital improvements program (CIP), and program management; assessment of parcel data for each municipality which was used as the basis for a user fee assessment; and development of 10-year funding projections for each of the four municipalities. The report also includes a summary of key findings and preliminary methods for implementation of a stormwater authority should each municipality wish to move forward with the suggested option.

For more information and products developed visit: [Southeastern Connecticut Council of Governments | Connecticut Institute for Resilience & Climate Adaptation \(CIRCA\)](#)

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**Preliminary Engineering Report: Holmes Street Seawall –Innovative Design for Climate Resilience  
Stonington  
\$50,000**

Holmes Street serves as an important collector road within Historic Downtown Mystic connecting local businesses, homes, and points of interest. An approximately 500-foot-long section of Holmes Street from the intersection with Bay Street and extending southwest past the intersections with Frazier Street is supported by a seawall along the western shore of the Mystic River. The existing seawall is in poor condition due to the age of the structure and scour due to rise in the water level and severe weather events.

The Town of Stonington was awarded a Connecticut Institute for Resilience & Climate Adaptation (CIRCA) grant to identify sustainable and resilient solutions to repair or replace the seawall. The solutions proposed are specific to the project location, but the results from this study are intended to be transferable to other communities facing similar climate challenges from increasing storm surge and sea level rise. Weston & Sampson was selected as the technical consultant to perform this study, which included evaluating existing conditions through site visits, survey, subsurface explorations, and structural evaluations; assessing coastal flood risk and resilience alternatives; preparing preliminary engineering alternatives with cost estimates; and recommending next steps to refine alternatives and advance through construction. Downtown Mystic is subject to current and future flood risk, and Holmes Street has flooded in the past under storm events. Flooding extends beyond the limits of the Holmes Street Seawall, which means that solutions proposed for this site will not be independently effective in mitigating flood risk. The resilience considerations for the site emphasize reducing the consequences from flood events (both to the infrastructure as well as community), adaptability of the solution, potential for creating social and economic value, and environmental benefits. Weston & Sampson developed several preliminary resilience concepts that can be integrated with structural alternatives for repairing or replacing the wall. The concepts are not mutually exclusive and may be combined as final design advances. Three structural alternatives were developed based on the results of this study: 1. rehabilitation of the existing seawall by installing sheet piling 2. complete wall replacement with soldier pile and lagging wall 3. complete wall replacement with conventional cast-in-place concrete retaining wall. Each of these alternatives will need to be designed and constructed to be scour resistant and can be integrated with larger regional resilience initiatives, including policy and physical measures. An opinion of probable cost associated with each structural alternative was presented, as well as next steps to advance design, permitting, and construction.

For more information and products developed visit: [Town of Stonington | Connecticut Institute for Resilience & Climate Adaptation \(CIRCA\)](#)