



# Portsmouth, RI Climate Resilience Planning and Financing Strategy

Produced by the  
Southeast New England Program (SNEP) Network

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The SNEP Network is administered by:  
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**Introduction to SNEP Network.** In 2019, the US Environmental Protection Agency (US EPA) awarded a five-year cooperative agreement to the New England Environmental Finance Center (New England EFC) at the University of Southern Maine to establish a technical assistance network to support the work of multiple partner organizations that provide training and assistance to municipalities, organizations, and tribes across the region. The purpose of the network is to advance stormwater management, ecological restoration, and climate resilience within Rhode Island and southeastern Massachusetts. An important overarching component of the network is to create sustainable revenue streams and financing processes in support of local implementation efforts now and into the future.

The Southeast New England Program (SNEP) Technical Assistance Network (“the SNEP Network” or “the Network”) is composed of over 16 different partner organizations from across the region, thereby offering a full complement of technical and financial services to communities in support of leadership development and peer-to-peer learning. The Network’s collective goals are to bring about a broader understanding of the impacts of stormwater facing the community, and to overcome implementation barriers through capacity building and innovative financing systems.

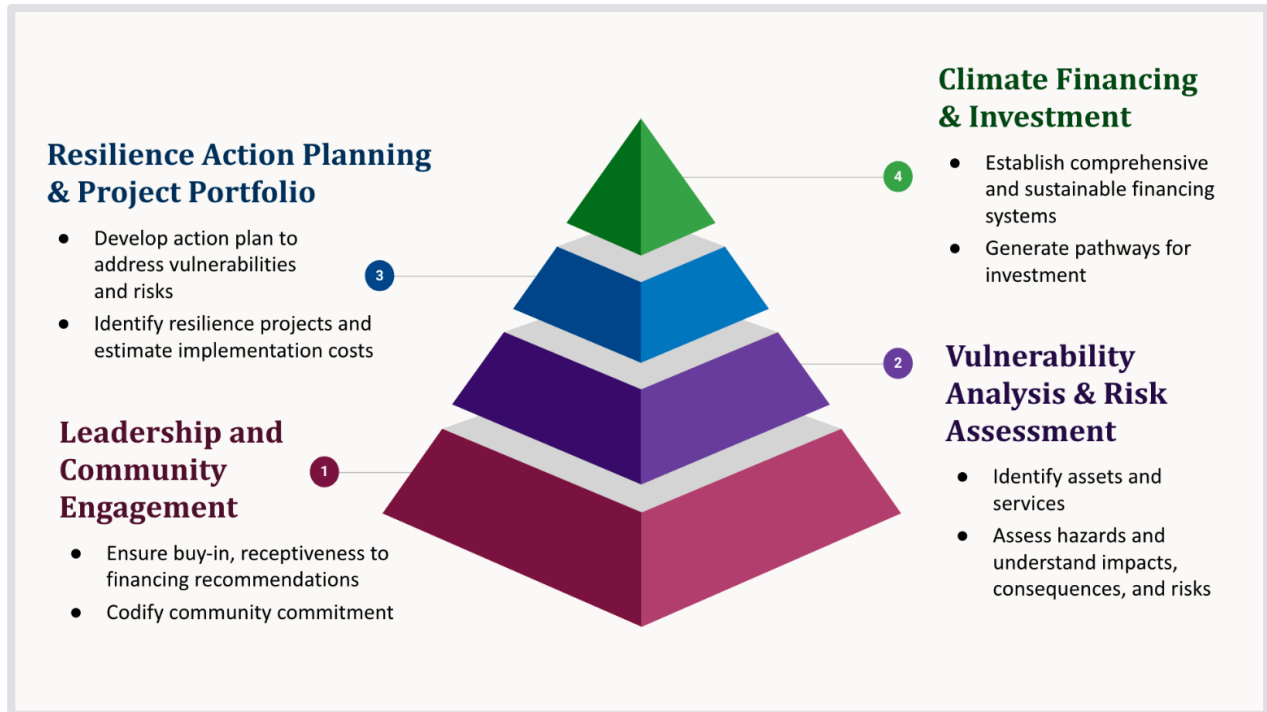
**Executive Summary.** The effects of climate change are already being felt across the State of Rhode Island generally, as well as in the Town of Portsmouth (“the Town”) specifically. In 2019, the Town of Portsmouth held a Community Resilience Building Workshop as part of the Rhode Island Municipal Resilience Program’s (MRP) efforts to engage community stakeholders to identify climate-related hazards, areas of vulnerability, and proposed projects and policies to enhance resilience. The [MRP Summary of Findings report](#) provided a solid foundation for larger resilience conversations within the Town; however, the community recognized the need for more comprehensive, long-term resiliency planning. Through the support of US EPA and the SNEP Network, the Climate Resilience Planning and Financing Project Team (“the SNEP Project Team”) worked directly with Portsmouth municipal leadership and a group of community stakeholders to address the impacts of climate change through the lens of long-term climate resiliency and sustainable financing.

**Project Overview.** Portsmouth applied for technical assistance support from the SNEP Network in Spring 2021. After conversations between Network partners and the Town, it was agreed that the technical assistance awarded to the Town would include (1) a facilitated process of identifying a list of high priority capital needs, as well as (2) support in hosting a workshop to solicit public input and secure community buy-in, (3) consultant services through the New England EFC to provide order of magnitude cost-estimates for priority capital projects, and (4) leadership engagement to ensure support for climate resilience planning and financing. It was also agreed that the findings of this technical assistance would be compiled and presented as a project deliverable in this Climate Resilience Planning and Financing Strategy.

**Project Approach.** The approach taken by the SNEP Project Team follows the step-by-step Resilience Financing Framework (*see Fig. 1*) laid out in the [Planning to Action: Climate Toolkit](#) (“PACT” or “the Toolkit”). PACT is a resource developed by [Throwe Environmental, LLC](#) to guide communities from the earliest stages of resilience planning through the latter stages of implementation and financing. PACT is an adaptation of the existing [US Climate Toolkit](#).

In collaboration with Town leadership, the SNEP Project Team formed a 35-member Climate Resilience Workgroup (“CRWG” or “the Workgroup”) of municipal staff and community

Figure 1: Resilience Financing Framework (Source: Throwe Environmental)



stakeholders to build on the strong levels of community engagement seen in the MRP workshop. Starting in April 2021, the CRWG convened regularly for conversations related to climate resilience and sustainable financing, as well as to respond to and provide feedback on the research, work products, and deliverables produced by the SNEP Project Team.

The SNEP Project Team, led by Throwe Environmental and Elizabeth Scott Consulting, conducted multiple resilience assessment and planning exercises to better understand the resilience challenges and opportunities facing the Town. The SNEP Project Team also used these activities to compile and refine a priority list of resilience-focused capital infrastructure projects and associated programs in the Town. The findings from these activities and the Project Team’s final recommendations are detailed in the following sections.

## PART I: COMMUNITY ASSESSMENT AND LEADERSHIP ENGAGEMENT.

The first step of the Resilience Financing Framework considers engagement and buy-in from community leadership and stakeholders. The SNEP Project Team conducted a Resilience Capacity Review (“RCR”) to gauge the Town’s current approach to resiliency, as well as opportunities for enhancing that approach. The RCR consists of ten question-and-answer prompts that are distributed throughout this report. The first three questions explore how Portsmouth defines resilience and integrates resiliency into municipal operations.

### *Resilience Capacity Review Questions:*

***RCR #1) Is there a clear existing town-wide definition of, and community-based vision for, resilience that considers environmental, economic, and social resiliency?*** The Town of Portsmouth has an existing comprehensive resilience definition that considers all aspects of

resiliency. This definition pulls from external sources, such as the National Oceanic and Atmospheric Administration. Portsmouth’s resilience vision is embedded in the Town’s Comprehensive Community Plan (CCP), which is in public draft review as of March 2021 (*see quotation below*). Portsmouth is also moving to incorporate resilience-based thinking into townwide decision-making processes. Portsmouth’s strong resilience foundation will make it easier to communicate the importance of investing in the Town’s most vulnerable areas.

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*“Resilience is the ability from recover from a challenging event . . . However, from a planning perspective, resilience must be thought of as not just bouncing back but bouncing forward – not simply to return to a previous state, but to create a better, more thriving community, able to recover quicker, with less disruption.”*

*“Economic resilience is addressing the costs of building community resilience and the cost of failing to do so. Societal resilience involves minimizing human vulnerabilities to disasters and strengthening our social and institutional foundations. . . Ecological resilience is maintaining a healthy natural environment which in turn acts to protect our community against natural hazard events.” – Portsmouth Draft CCP, 2021*

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***RCR #2) Is there an understanding of how resilience issues fit into other community priorities (e.g., economic development)?*** There is a good understanding of how these issues fit into other priorities across the community, and this understanding will only improve when the CCP is finalized. Town staff expect the connections to climate change to more clearly articulate Portsmouth’s commitment to proactively addressing climate challenges.

***RCR #3) Are regulatory, planning, and implementation activities coordinated across departments and carried out in synchronization?*** Portsmouth leadership has shown an increasingly dedicated commitment to town-wide coordination. This strategy of interdepartmental engagement aims to coordinate elements and objectives to meet shared goals. Current and future planning activities will likely continue to underscore this commitment.

**Leadership Engagement.** The SNEP Project Team took a two-pronged approach to the leadership engagement piece of the Portsmouth project. First, the SNEP Network, in partnership with the [Association for Climate Change Officers](#) (ACCO), offered [free scholarships](#) to Portsmouth community leaders to take part in ACCO’s [Climate Change Professional \(CC-P®\) certification program](#). Upon completion of the CC-P, participants in the program will have had access to over 14 hours of peer-to-peer learning and climate change training to enhance their competency in the fundamentals of climate change preparedness and strategic planning.

Second, the SNEP Project Team provided Portsmouth with a large-scale engagement opportunity through the EPA Region 1 [“Soak Up the Rain” webinar program](#). This monthly webinar series highlights innovative approaches to addressing stormwater quality and quantity issues across New England, bringing these case studies to a national audience. In conjunction with EPA program staff, Throwe Environmental developed an [August 2021 webinar](#), entitled **“Addressing Stormwater**

**Flooding through Resilience Action Strategies and Sustainable Financing,”** that featured two SNEP Network technical assistance projects in Portsmouth, RI and Bourne, MA. Portsmouth Town Planner Gary Crosby and University of Rhode Island (URI) Coastal Resources Center (CRC) Associate Coastal Manager Pam Rubinoff were featured as community panelists representing Portsmouth. The webinar highlighted the innovative approach of the Portsmouth/SNEP Network project, as well as the strong record of community and leadership engagement in the Town. Once publicly available, the webinar recording will be linked [here](#).

**Summary of Findings: Community Assessment & Leadership Engagement.** The Town of Portsmouth has clearly demonstrated a strong community interest in proactively addressing the risks and impacts of climate change. This broad community support is documented in several places, including the Town’s Hazard Mitigation Plan, the draft CCP, and the MRP report. Additionally, the strong level of stakeholder engagement throughout the SNEP project indicates that there is not only a genuine desire to plan for climate change in Portsmouth, but that this desire can and has been activated through strategic, community-led planning efforts.

Additionally, there is clear engagement in resilience topics on behalf of Town officials and leadership. While there is currently no dedicated municipal position through which all resilience activities are coordinated, the various Town departments (Planning, Public Works, Town Administrator, etc.) have a record of collaboratively tackling resiliency challenges head-on.

The strong base of community and leadership engagement serves as a critical foundation for the remaining components of the Resilience Financing Framework. In other words, Portsmouth’s commitment to addressing the impacts of a changing climate enables the community to seriously consider its priorities for actions, as well as the key steps and mechanisms necessary for implementation, funding, and financing.

## **PART II: RESILIENCE PRIORITIZATION & ACTION PORTFOLIO**

This section addresses the second and third stages of resilience planning: prioritization by way of a vulnerability and risk assessment, and resilience action planning. RCR questions 4–7 were used to assess the Town’s assessment and planning efforts thus far.

### ***Resilience Capacity Review Questions:***

***RCR #4) Has the community identified and inventoried the assets (e.g., cultural, capital, economic, etc.) that are valued in relation to resilience?*** Portsmouth’s several documents provide a range of inventories. The [2018 Hazard Mitigation Plan \(HMP\)](#) categorizes assets generally. Similarly, the 2019 MRP Summary of Findings report lists several categories and locations that workshop participants identified to be of concern. These assets cover infrastructural, ecosystem, community, and social categories. Portsmouth also works with Jacobs Engineering to produce an annual assessment on the condition of Town facilities. The 2019 Jacobs Report identified \$12.7M in facility needs between 2019–2024.

The draft CCP recommends creating and maintaining a baseline asset inventory. This commitment to an up-to-date and inclusive inventory will help the Town understand the extent of its capital needs. Additionally, the Town will need to directly consider the climate impacts on those assets in order to produce accurate cost estimates.

***RCR #5) Does the community have a clear understanding of the hazards it’s facing and the assets that are exposed to those hazards? Does the community understand how to characterize relative vulnerability and risk?*** The Town has a good understanding of community hazards with the HMP providing a wealth of information on natural hazards. The HMP Committee used hazard frequency, potential extent of damage, and potential impacts as metrics to rank the level of concern/risk for each hazard (see Fig. 2).

Town staff have noted that hazards are sometimes ranked based on funding need or availability. Additionally, some reports have conflicting information on level of concern (e.g., sea-level rise is listed as low-risk in the HMP and as top-risk in the MRP). The Resilience Capital Improvement Plan (“RCIP”) and future planning activities should help to clearly articulate resilience priorities.

***RCR #6) Does the community have a clear understanding of potential mitigation steps, as well as the systems necessary to support mitigating risk?*** The HMP is the best source of information available for understanding mitigation steps. Beginning in Chapter 6, actions are listed with significant detail (priority level, risk, cost, etc.). HMP mitigation actions are updated with the entire plan on a five-year basis, with the next update scheduled for 2023.

Actions are also listed in the MRP report, though with less detail. Additional recommendations are listed in the regional 2017 Aquidneck Island Resilience Strategy (AIRS), though this document is more educational and does not list out which town(s) will take responsibility for each action. The 2019 Common Fence Point Community Resilience Building document lists details and potential actions along with level of priority for many of the assets (although not a complete list) in this extremely vulnerable part of town.

In summary, Portsmouth has ample documentation to understand the mitigation steps needed to become more resilient. However, the Town does not necessarily have the resources or assigned responsible parties in place to hold accountable to complete actions. Portsmouth does have the right economic, social, and infrastructural systems available to manage many of the proposed actions. The development of the RCIP should provide key details on action items, including timelines, cost-estimates, and parties responsible.

***RCR #7) Does the community have a clear understanding of how short-, mid-, and long-term action steps should be prioritized?***

Portsmouth does not appear to have a systematic method for tracking mitigation and prioritizing actions, either through the budget process or allocation of work assignments. However, Portsmouth does have a very engaged council and staff that have set up processes to prioritize and implement actions moving forward. The Town also has an engaged community interested

**Figure 2: Portsmouth Climate Hazards**  
(Source: Portsmouth HMP)

HIGH	MEDIUM	LOW
Hurricane	Ice Storm	Brushfire
Nor’easter	Street Flooding	Dam Failure
Coastal Flooding	Extreme Temps.	Earthquake
Snowstorm	Drought	Hail
High Winds		Lightning
		Tornado
		Sea Level Rise
		Tsunami

in participating in future resilience planning activities. Remaining challenges that may impact implementation include competing priorities, lack of dedicated funding, and capacity limitations.

There is value in Portsmouth being part of Aquidneck Island that should not be discounted when prioritizing action steps. State, federal, and philanthropic resources are much more accessible when collaboration and cooperation exists among municipalities on a shared topic or action (such as those recommendations coming from the AIRS). The same could be said of the close proximity to the Towns of Tiverton and Little Compton. Regional collaboration could be a way to allow Portsmouth to provide scale on certain projects and to attract funding to complete certain actions and strengthen existing capacity.

Naval Station Newport (NAVSTA Newport) also offers a real opportunity for partnership and island-wide engagement and planning. Lines of communication are open between Aquidneck Island municipalities and NAVSTA Newport, with regular quarterly meetings and engagement with Navy contacts.

**Resilience Capital Improvement Program.** Despite ample information related to climate hazards, asset vulnerabilities, and potential mitigation options, the Town has not yet established a means of prioritizing actions. A clear method of prioritization is needed to ensure that necessary infrastructure and resiliency needs are embedded into all aspects of municipal governance and investment.

To that end, the SNEP Project Team worked with the Town of Portsmouth to develop an innovative yet familiar method of tracking resilience action item data. This tool, called the Resilience Capital Improvement Program (RCIP), adapts the key components of a traditional CIP. The RCIP works to elevate those projects and associated programs that enhance climate resilience.

In developing the RCIP, the SNEP Project Team extracted mitigation action recommendations from the HMP and MRP reports, the Project Team's literature review, and CRWG meeting notes. These action items were compiled into one "master list" of mitigation actions. The SNEP Project Team then worked with the CRWG Subgroup to narrow down this list to include only priority resilience actions that have not been completed and/or do not have funding secured to date. Actions that were capital in nature, clearly focused on enhancing resilience, **and** were financeable were grouped into the core RCIP master list of capital items. Other action items that were programmatic in nature (i.e., assessments, planning studies), were ongoing or recurring, or supported capital projects were grouped onto a secondary list of programmatic items.

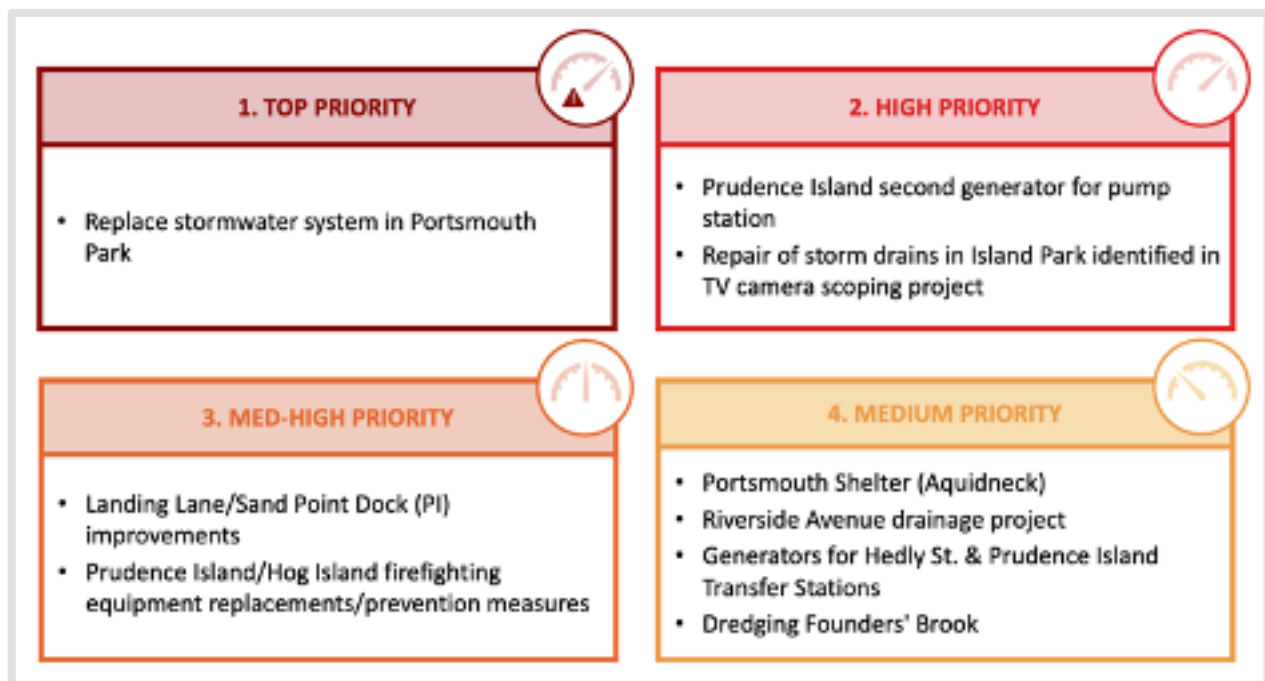
CRWG members were then asked to provide feedback on the draft RCIP list during and after a meeting of the Workgroup. The RCIP was also presented during the public "Climate Resiliency Planning & Financing Strategy Workshop" on October 7, 2021. The workshop was hosted by the Town of Portsmouth, and supported by staff from Elizabeth Scott Consulting, the University of Rhode Island Coastal Resources Center, and Throwe Environmental. The workshop was announced on the Town website and marked in the local press. The goals of the workshop were to detail the activities of the SNEP/Portsmouth project to date, make the case for a strategic approach to long-term climate resiliency planning and financing, and to solicit feedback on the draft RCIP. Following the workshop, the SNEP Project Team worked with Town staff to edit and finalize the RCIP based on the feedback received from the public and the CRWG. The full and final RCIP list consists of nine (9) capital projects and nineteen (19) programmatic items, and is attached in Appendix A.

While the SNEP Network and Portsmouth collaborated to complete the RCIP spreadsheet, the resource should exist as a living document. The Town of Portsmouth should revisit the RCIP process on an annual basis, as it would with other capital planning tools, so that it may continue as a resource to inform capital planning and resilience investments as a whole.

**Analyzing RCIP Projects.** The easiest way to analyze the projects on the RCIP capital list is by grouping them, which can be done in a number of ways: by priority level, timeline, geography, or focus area. Each grouping contributes to the overall narrative that the RCIP provides as a snapshot of Portsmouth’s current resilience needs.

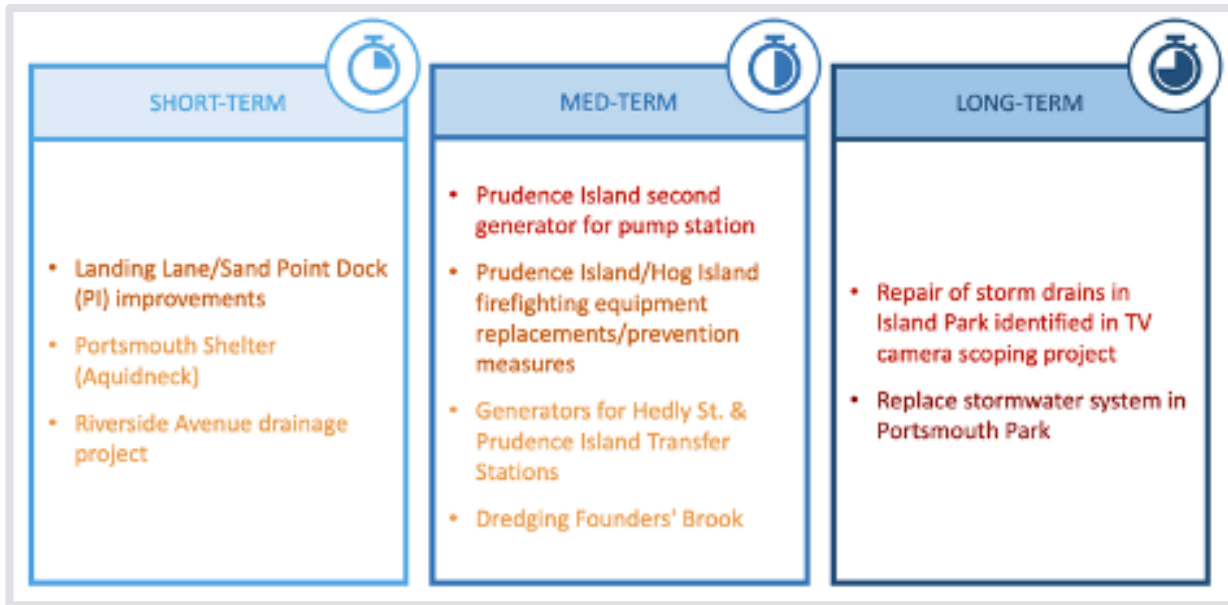
**RCIP Capital Projects: Priority Level.** Grouping RCIP projects by priority (*see Fig. 3*) shows that the Town has a clear understanding of its top capital priority—the replacement of the Portsmouth Park stormwater system. Additionally, other projects are fairly evenly distributed across high–medium priorities, leaving the Town with a clear hierarchy of priorities.

*Figure 3: RCIP Capital Projects Grouped by Priority Level*



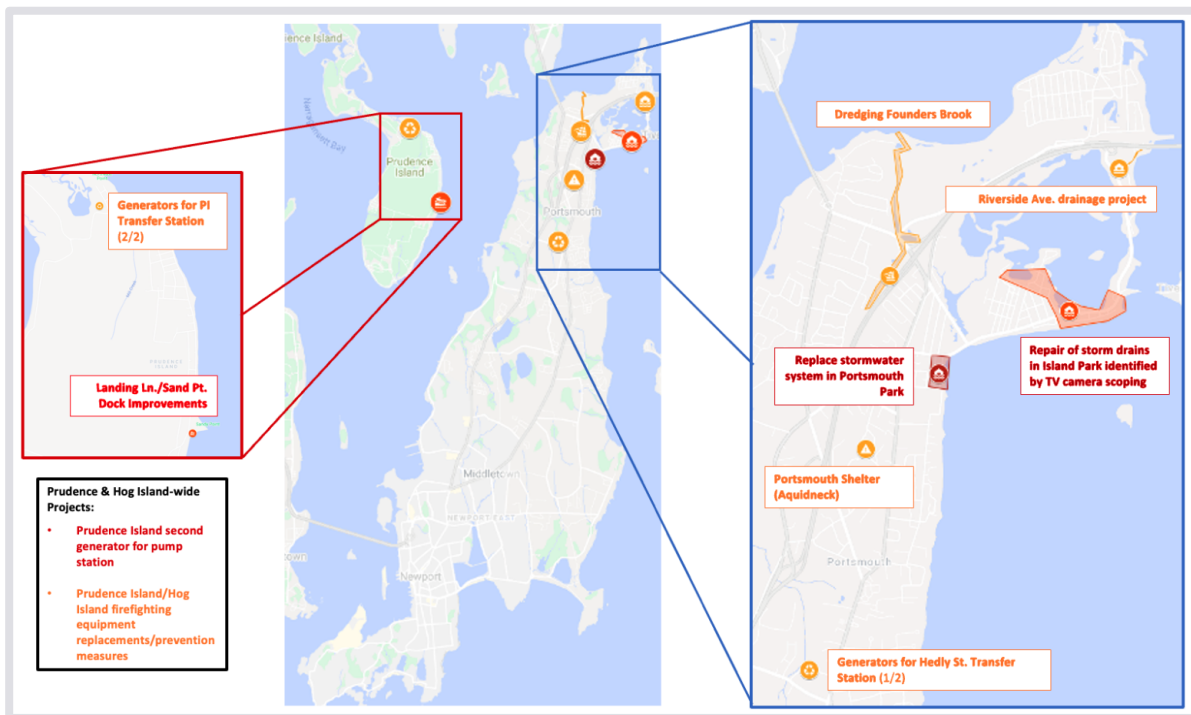
**RCIP Capital Projects: Timeline.** Organizing RCIP projects by timeline (*see Fig. 4*) helps to provide a more complete picture of the Town’s capital resilience needs. Most of Portsmouth’s RCIP carry a medium-term timeline, meaning they are to be initiated within 3-5 years. Interestingly, the top and high priority projects (indicated by shades of red) are clustered in the medium- and long-term timeline categories. Therefore, while these projects are of high importance, the scale of the projects themselves cause them to require longer-term time commitments.

Figure 4: RCIP Capital Projects Grouped by Timeline



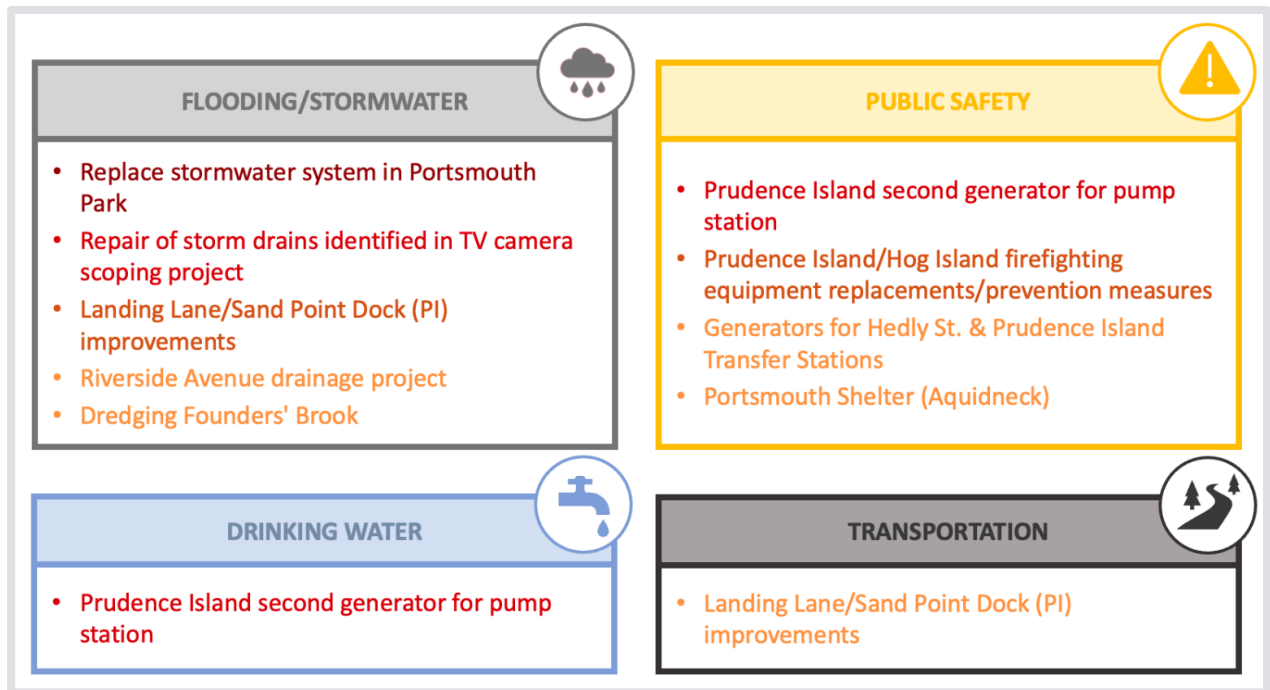
**RCIP Capital Projects: Geography.** Overlaying the RCIP on a map of the Town (*see Fig. 5*) reveals where most of the projects are geographically focused. Portsmouth’s low-lying and/or isolated neighborhoods of Common Fence Point, Island Park, and Prudence Island are home to nearly all of the RCIP projects, including all of the top or high priority actions. The concentration of projects in these areas underscores the importance of enhancing resilience in the already vulnerable areas of the community.

Figure 5: RCIP Capital Projects Grouped by Geography



**RCIP Capital Projects: Focus Area.** Grouping RCIP projects by the focus or issue area they address (*see Fig. 6*) paints a picture of the climate-related challenges that Portsmouth is facing. Projects predominantly fall in the flooding and stormwater category, underscoring the magnitude of the Town’s stormwater/drainage issues highlighted in the HMP, MRP, and other planning documents. Additionally, several projects can be categorized as related to public safety, a topic that was prominent in CRWG meeting discussions. In general, CRWG members identified the need for improved shelter and emergency management capacities to respond to a climate emergency.

*Figure 6: RCIP Capital Projects Grouped by Focus Area*



**Consultant Cost Estimates.** As agreed upon in the project Memorandum of Agreement, the SNEP Network is also providing consultant services, free of charge, to the Town to produce cost-estimates on several of the higher priority items (*see Fig. 7*) that emerged from the RCIP exercise. More specifically, [Pare Corporation](#) (“Pare” or “the Consultants”) has been retained by the SNEP Network to provide guidance and work with Town staff to provide cost estimates that will be utilized for planning purposes on four (4) high priority infrastructure projects, and planning level scopes of work for two (2) programmatic priorities identified in the RCIP. The deliverables (*see Appendix C*) will inform the Town’s decisions about the most appropriate funding/financing options to advance these high priority capital projects and next generation resilience studies, as detailed below:

- **Project 1 - Replacement of Stormwater System in Portsmouth Park:** Pare will provide a stand-alone document of budgetary construction costs anticipated for approximately 2,000 lineal feet of stormwater drainage pipe, including 19 pre-cast catch basins located within Narragansett Avenue and Aquidneck Avenue, including any connecting streets.

- **Project 2 - Repair of Storm Drains in Island Park:** Pare will provide stand-alone documentation of the construction costs anticipated for six drainpipes that need repair or replacement as identified in the Town’s Close Circuit TV scoping project as listed in the RFP.
- **Project 3 - Generators for the Hedly Street and Prudence Island Transfer Stations:** Pare will provide stand-alone documentation of the construction costs anticipated for two mobile generators, including the necessary accessories, diesel tank(s), and minor electrical work.
- **Project 4 - Riverside Avenue Drainage Project:** Pare will evaluate the need for an underground galley type drainage system to infiltrate/treat stormwater that collects at the low point of Riverside Avenue to eliminate flooding. This evaluation will provide a conceptual design of the underground stormwater infiltration system, list of permits anticipated, and the estimated costs to construct.
- **Project 5 - Island Park Sea Level Rise Adaptation Planning Study:** Pare will prepare a stand-alone planning-level scope of work and an estimate of engineering fees required to produce a study to identify strategies, including capital improvements, to enhance the resiliency of town, state, and private infrastructure in Island Park as related to sea-level rise and adaptation planning. The scope of work will be prepared utilizing conditions of a 1-foot sea-level rise by year 2035 and a 3-foot sea-level rise by year 2050. This task will also utilize readily available tools such as RI [STORMTOOLS](#) and other online GIS data and/or documents to prepare the scope of work for this study.
- **Project 6 - Town-wide Road and Drainage System Assessment/Analysis:** Pare will prepare a stand-alone planning-level scope of work and an estimate of engineering fees required to produce an assessment study for Town-owned or Town-maintained roadways and drainage systems relative to existing conditions, as well as the need for replacement and/or upgrade due to potential changes in increased precipitation as a result of future climate change. The assessment study will be used by the Town to identify needed capital improvements to support ongoing efforts to attain resiliency into the Town’s infrastructure.

**Summary of Findings: Resilience Prioritization & Action Portfolio.** The Town of Portsmouth has a good understanding of the climate hazards it faces and the assets that are vulnerable to those hazards. Additionally, the Town has thoroughly explored the range of mitigation actions that are needed to address its climate risks and vulnerabilities; however, the Town did not have a process of prioritizing various actions across Town planning documents. The RCIP fills the gap that existed around action prioritization, allowing the Town to aggregate action information and focus on priority options.

Additionally, the RCIP elevates capital infrastructure projects that address resiliency, allowing them to compete with other capital priorities where they might normally be unable to. As a result, the RCIP is a tool that allows Portsmouth to maintain a strong and up-to-date portfolio of resilience projects, while also enabling the Town to easily identify magnitude of cost estimates associated

Figure 7: RCIP Capital Projects and Programmatic Items Included in Cost-Estimates

CAPITAL RCIP PROJECTS INCLUDED IN CONSULTANT COST-ESTIMATES				
Project Name	Priority	Timeline	Details	Reference Doc
Replace stormwater system in Portsmouth Park (Aquidneck Ave and Narragansett Ave)	TOP (#1)	Long-term (5yrs+)	Need to replace approx 2000 ft of stormwater pipe and install 19 pre-cast catch basins on Narragansett and Aquidneck Avenues and connecting streets.	CRWG Subgroup Meetings, Illicit Discharges Report
Repair of stormdrains in Island Park identified in TV camera scoping project	HIGH	Long-term (5yrs+)	Six pipes are to be repaired or replaced. See the separate list of specific drainage lines needing work.	CRWG Subgroup Meetings, Illicit Discharges Report
Riverside Avenue drainage project	MED-HIGH	Short-term (0-3yrs)	Underground Injection System needed to mitigate flooding	HMP
Generators for Hedly St. & Prudence Island Transfer Stations	MEDIUM	Med-term (3-5yrs)	Mobile generators with some accessory needs	FY22-30 Capital Requests, HMP

PROGRAMMATIC RCIP ITEMS INCLUDED IN CONSULTANT COST-ESTIMATES				
Program Name	Priority	Timeline	Details	Reference Doc
Island Park Sea Level Rise Adaptation Planning Study	TOP (#1)	Short-term (0-3yrs)	Sea level rise adaptation planning needed to identify strategies (including capital improvements) to enhance Island Park resilience	CRWG Meetings
Townwide Road and Drainage System Assessment/Analysis	HIGH	Short-term (0-3yrs)	Assessment of Town-owned (maintained) road and drainage system assets (conditions, need for replacement/upgrade) townwide taking into consideration projected changes in precipitation is needed.	Subgroup Meetings

with those projects. In turn, this positions Portsmouth well for a thorough consideration of sustainable funding and financing options to support its array of resilience projects and programs.

### PART III: SUSTAINABLE FUNDING AND FINANCING.

The transition from the planning stages to project implementation relies heavily on the appropriate funding and financing schemes. Embedding funding and financing in the conversation early in the planning process can lead to more effective systems that meet the level of investment required. To that end, RCR questions 8–10 are intended to gauge the Town’s approach to funding and financing.

## *Resilience Capacity Review Questions:*

***RCR #8) Does the community currently have the revenue streams, procurement procedures, and financing systems in place to support resilience infrastructure and financing?*** Portsmouth currently does not have dedicated funding in place specifically for resilience needs. Typically, the Town funds resilience projects through general funds and grants. Each August, the Town prioritizes and allocates funding for annual capital expenditures from the general fund, while pursuing grant opportunities for other specialized projects. Town staff find that this approach leaves resilience projects competing with other priorities.

Portsmouth tries to maximize in-kind services for matching funds, though this strategy is increasingly difficult as Public Works services are spread thin. The Town is proactively addressing these issues by building up a small contingency fund (currently ~\$300K) and additional non-earmarked CIP reserve funding/cash-on-hand (currently ~\$300K) that can be used for studies or match. Town staff aim to continue building these funds over time.

Procurement in Portsmouth is divided into two processes. If procurement exceeds \$5,000 for general purposes and \$10,000 for construction, an RFP process is triggered. This process is the preferred method, and it follows state guidelines and clearly articulates metrics for decisions. When procurement falls below these thresholds, standard operating procedure is to get three price quotes and negotiate. Additionally, the town is allowed to take bidders directly off a master price agreement list.

The Town expects funding from the American Rescue Plan Act (“ARPA”) of 2021 (Public Law No: 117-2) to be a significant new source of funding. Town staff anticipate \$3.5M in funding (after accounting for lost revenues and new projects). Currently, ARPA funding is being steered towards water, sewer, and broadband improvements (green, gray, and hybrid). While there is little guidance on how funding will be distributed, Portsmouth and other municipalities will likely have to gain approval from Town Council and the state for proposed use of funds. Portsmouth has welcomed recommendations from the SNEP Project Team related to use of ARPA funding.

***RCR #9) Has the community assessed how existing processes will need to be adapted to establish a sustainable and scalable financing system?*** Currently, most stormwater improvements are funded through the DPW operating budget. Portsmouth considered a stormwater management district/fee around 2017–2018, an approach which would grant these projects stable and dedicated funding. The idea faced significant political obstacles, as did a similar idea in the Town of Middletown. Town staff believe the future political climate might be more ideal to reintroduce this proposed funding opportunity.

Capacity issues (i.e., size, bandwidth) limit Town staff’s ability to take advantage of every available grant opportunity. In some instances, Portsmouth is unaware of grant opportunities, finds opportunities off-cycle, or cannot meet the match requirements. Staff are open to regional staffing/contracting opportunities to help address capacity issues related to grants.

***RCR #10) Has the community considered innovative financing options that could draw in outside capital and investment for resilience infrastructure?*** While some options have been mentioned, the community has not yet seriously considered innovative financing options (e.g., TIFs, P3s, stormwater utilities, or enterprise funds). One previous experience using TIF on a small

project led to some confusion, suggesting that a comprehensive education strategy would be needed for innovative financing.

**Criteria for Funding.** The “Criteria for Funding” exercise was a process of developing metrics that the Town can use to quickly categorize projects by the term of funding need. In other words, the term of funding needed for a given project corresponds to the category in which it fits best. Characteristics of different projects are summarized below, and listed in full in Appendix B.

- **Short-term projects** are those that are to be initiated within 0-3 years. They address acute or recurring problems or fill information gaps about problems. Short-term projects decrease the likelihood of serious damage or loss of life and address critical facilities and top/high priority assets. They assess the criticality of threats to vulnerable ecosystems and/or populations; address stormwater issues with long-term implications; address low-lying areas; and enhance emergency services, economic and financial systems, communications, and operational activities.
- **Medium-term projects** are those that are to be initiated within 3-5 years. They address incremental problems or those that will become acute in the med-term. Medium-term projects address vulnerable town geographies (i.e., Common Fence Point, Island Park, Prudence Island), public facilities, and changing natural systems. They address the effects of hazards of high concern. They create systemic redundancies, promote regional coordination, and work to improve infrastructure networks. Medium-term projects address open space, housing, and community design goals, as well as those goals laid out in the HMP and MRP.
- **Long-term projects** are those that are to be initiated in 5 or more years. These projects address chronic and ongoing problems, or those that will become acute in the long-term. They address hazards of medium or low concern, as well as low priority assets. Long-term projects restore natural systems, address wildlife changes, enhance historical culture, and improve recreation.

While these criteria will not be applicable in every situation, they offer the Town another tool for resilience planning and financing. The criteria and the RCIP process were both used to establish timelines for funding opportunities, which were discussed further with Portsmouth municipal staff and leadership.

**Resilience Funding and Financing Discussions.** Throughout the duration of the SNEP/Portsmouth project, the Project Team had multiple discussions about potential opportunities for resilience funding and financing. In general, the group explored opportunities for short- and longer-term investment.

The SNEP Project Team engaged the Rhode Island Infrastructure Bank (RIIB) in these conversations. RIIB staff emphasized the importance of building on the momentum from the SNEP effort by identifying funding to support implementation of one or more of the RCIP projects. RIIB also encouraged the Town to take a holistic, process-based approach to the funding process. In other words, RIIB seems to encourage first considering the projects in need of a certain amount of funding before actually identifying the funding itself, rather than making projects fit a particular funding source.

**Summary of Findings: Sustainable Funding & Financing.** While Portsmouth currently does not have innovative and sustainable financing systems and mechanisms dedicated to resilience in place, the Town is actively exploring their options. This project through the SNEP Network, as well as conversations with outside organizations like the RIIB, demonstrate the Town’s desire to pursue long-term, sustainable resilience funding and financing options. While current municipal structures might not support these innovative financing systems, the Town has a clear and growing understanding of the adaptations that will be needed to meet the challenges of climate resilience funding and financing. To that end, the following recommendations highlight the suggested next steps for the Town of Portsmouth to continue moving forward on sustainable funding, financing, and resilience planning.

## **PART IV: RECOMMENDATIONS.**

With the project findings as the foundation, the SNEP Project Team recommends the following options as next steps to guide further resilience planning and sustainable financing in the Town of Portsmouth. As with the rest of this report, these recommendations are organized within the four steps of the Resilience Financing Framework that guided this project.

### **Recommendations: Community Assessment & Leadership Engagement**

***Recommendation 1: Establish a Portsmouth Resilience Program.*** A central component of Portsmouth’s resilience efforts to date has been the development of the RCIP. Again, this process enables local leaders to effectively rank resilience actions within the broader suite of community investment needs and priorities. This first iteration of the RCIP has proven that effective resilience efforts in Portsmouth will require the coordination and engagement of virtually every department and agency that impacts the Town’s capital planning and implementation process. Therefore, it is imperative that the Town establishes a formal Portsmouth Resilience Program (“the Resilience Program” or “the Program”) that is designed to:

- Coordinate programmatic activities among existing programs and agencies;
- Lead efforts to develop and implement a resilience plan and action strategy;
- Help Town staff anticipate and plan for climate resilience infrastructure needs in the future;
- Serve as the primary conduit of information and outreach to citizens and businesses; and
- Identify the most efficient and effective mechanisms for funding and financing resilience infrastructure projects.

Though the resilience program will work directly with a range of local staff and programs, it should sit independently from existing agencies. Additionally, given the significant impact that climate resilience planning, financing, and implementation will have on multiple agencies and programs within the Town, our recommendation is that the resilience program leadership report directly to the Town Administrator. That is addressed in more detail in Recommendation 2.

***Recommendation 2: Establish a Portsmouth Climate Resilience Program Director position.*** The Portsmouth Resilience Program will require dedicated leadership. Despite strong levels of community and leadership engagement and support, there remains a need for deliberate and dedicated coordination on climate resilience issues in the Town. To that end, an important first

step for Portsmouth will be to establish a municipal Climate Resilience Program Director (“the Resilience Director” or “the Director”). This position should report directly to the Town Administrator and should work in close collaboration with existing department heads and staff. The Resilience Director should also work closely with external organizations, including RIIB. As RIIB works to establish its own pilot Aquidneck Island Regional Resilience Coordinator, it will be imperative that the Resilience Director is well connected to intra- and extra-municipal efforts to enhance resiliency across Portsmouth and greater Aquidneck Island.

It should be the Resilience Director’s mission to manage and direct the Resilience Program, thereby ensuring Town infrastructure investments are working to achieve Portsmouth’s resilience vision and goals. The Resilience Director should also be responsible for the resilience planning and programmatic activities outlined in the recommendations that follow.

### Recommendations: Resilience Prioritization & Action Portfolio

***Recommendation 3: Develop and implement a dynamic hazard, risk, and vulnerability assessment process.*** One of the most fundamental responsibilities of the Resilience Director should be to ensure hazard, risk, and vulnerability assessments are up-to-date and reliable on an individual **and** holistic basis. To that end, Recommendation 3 is two-fold.

Firstly, we recommend that the Town adopts an adaptive process of assessing hazards, risks, and vulnerabilities on a project-by-project basis. The scale of climate impacts will not only require direct investments in new resilience infrastructure, but also indirect investments that make existing infrastructure resilient. Establishing an individualized assessment procedure will allow the Town to consider resilience in each of its infrastructure investments, even if a project is not directly charged with protecting the community against climate impacts. Specifically, the analysis should include four components:

- An inventory of the climate hazards that will potentially put the Town’s assets and resources at risk;
- An assessment of the Town’s vulnerability to those risks;
- An assessment of the impact that climate hazards will likely have on the Town’s assets and resources, including an estimate of the economic and financial costs; and
- The development of a suite of criteria for taking mitigation actions.

These four components of the risk and vulnerability assessment process will enable Town leaders to identify infrastructure investment needs and target resources more efficiently and effectively to those needs. Through its existing planning activities, Portsmouth has already done an excellent job of preparing for this recommendation. This process could be carried out by simply consulting the HMP, MRP, and/or other documents. The Town is also positioning itself well to take up future resilience planning. For instance, two studies identified and prioritized in the RCIP (the Island Park Sea-Level Rise Adaptation Planning Study and the Townwide Road and Drainage System Assessment/Analysis study) are being scoped out by the SNEP Network supported consultant.

Secondly, we recommend the Town commits to continuously reevaluating its more comprehensive, townwide risk and vulnerability assessments to ensure it is operating with the most up-to-date data available. Whereas planning documents become outdated over time, this should be done on a

more periodic basis. In some instances, this may be done through scheduled plan updates; in others, the Town should consider reconvening the appropriate community workgroups to reassess where climate resilience planning efforts should focus their attention. These activities—both the project-by-project and townwide risk and vulnerability assessments—would fall within the purview of the Resilience Director.

***Recommendation 4: Use risk and vulnerability analysis to expand RCIP into a detailed project portfolio, segregated among the three categories.*** The development of the RCIP that took place throughout this project should provide Portsmouth with a good basis for future RCIP planning. As any other capital infrastructure planning exercise, the RCIP should be revisited on an annual basis. As projects are completed and new projects emerge, they should be moved off and added onto the list, respectively.

In the RCIP, the Town identified the need for an up-to-date list of “shovel ready” resilience projects that it can draw upon when funding opportunities arise. To that end, we recommend Portsmouth uses the RCIP process to produce that “shovel ready” list. Early conversations indicate that RIIB and other funding agencies are eager to work with communities that are ready and committed to enhancing their climate resilience. Therefore, it behooves Portsmouth to be as prepared as possible for funding opportunities that exist, both in the near- and longer-term.

The Director should also seek to further expand the RCIP process by classifying items across three project categories or typologies:

1. **Baseline** projects and programs provide structure to the Town’s resilience system, including staffing support (specifically the Resilience Director), necessary studies and assessments (such as the risk and vulnerability analysis), and implementation of catalytic projects. Baseline programs also include emergency management and hazard/disaster-response contingency funding.
2. **Enterprise** or outcome-based projects and programs are focused on many of the essential services that Portsmouth government provides to its residents and businesses. Climate resilience will overlap a variety of enterprise programs and outcome-based needs in the community, including wastewater/watershed management, drinking water management and delivery, solid waste management and recycling, emergency services and stormwater/drainage mitigation. Many of these outcome-based programs are codified through an established enterprise program/fund, while others such as stormwater management are addressed programmatically throughout various Town government agencies. All of them will be impacted by the Town’s resilience implementation process in some way. Existing Town enterprise funds include the Septic Loan Program Enterprise Fund and the Transfer Station Enterprise Fund.
3. **Capital** and infrastructure projects are the primary focus of the resilience financing process. These projects can be embedded within baseline or enterprise processes, but they are often implemented as a result of specific community needs, including:
  - ***Protecting an essential asset.*** The most targeted project approach is associated with protecting specific assets that are threatened by climate change (a particular community building, for example).
  - ***Protecting an asset class or system.*** Many community resilience projects are designed to a suite of assets within a particular system. This can include protecting road and transportation networks, residential and commercial

buildings, or essential public utilities. Projects designed to protect an asset class are often coupled with regulatory or permit changes (i.e., Building codes, floodplain management, etc.).

- **Protecting threatened geographies or communities.** Large-scale resilience projects are often designed to protect specific communities or neighborhoods from a variety of climate hazards and threats. These projects can include flood mitigation/abatement and transportation enhancements.
- **Incentivizing outcomes.** Finally, resilience projects may be designed to address a particular hazard or desired outcome. These projects are often associated with enterprise fund activities, but they can also include other community priorities such as habitat restoration and protection.

Classifying RCIP projects based on their typology (*see Fig. 8*) not only helps to better define the actions that are being undertaken, but also helps to provide a clear picture of potential revenue sources and financing options.

*Figure 8: RCIP Projects Categories by Project Typology*

Baseline	Enterprise (like)	Infrastructure
Island Park sea-level rise study		
Dam action plan		
Drainage/road system analysis	Prudence Island pump station generator	
Emergency communications	Prudence Island & Hog Island firefighting equipment	Landing Lane & Sand Point Dock
Prudence Island shelter assessment	Transfer station generators	Aquidneck Island shelter
Wildlife hazard assessment	Road paving/drainage program	Dredging Founders Brook
Neighborhood preparedness	Stormwater runoff control ordinance	Portsmouth Park stormwater system
Assessment of flood-prone parcels	Emergency management, response, and evacuation	Island Park storm drains
Zoning ordinances		Riverside Avenue drainage
Land-use management plans		
Power needs assessments		
Complete streets study		

## Recommendations: Sustainable Funding & Financing

***Recommendation 5: Establish a Climate Resilience Fund.*** The RCIP functions to incorporate climate resilience and adaptation into virtually all components of local government, including program and project development and financing. By nature, the diversity of the funds and revenues supporting the Town’s resilience programs will reflect the existing revenue system and resources. However, given the growing need to address climate impacts now and long into the future, it will be necessary to dedicate funding specifically to programs and projects that are essential for achieving the Town’s resilience vision and action plans. This in turn will require a dedicated funding and financing resource in the form of a Climate Resilience Fund (“the Resilience Fund” or “the Fund”).

The primary purpose of the Resilience Fund would be to expand resilience investments by creating efficiencies, economies of scale, and political synergies for addressing resilience infrastructure needs. The Resiliency Fund would provide Portsmouth with a variety of benefits, including:

- *Prioritizing resilience infrastructure projects within the financing system.* The targeted nature of the Fund would expand the impact of the RCIP process by enabling Town leaders to focus fiscal resources on those projects that are identified to be most critical to the resilience implementation process.
- *Accelerating and scaling the financing process by leveraging public and private revenue streams.* The Fund would have the focus and capacity to target investments in projects identified in the RCIP. If structured appropriately, the Fund would be able to incentivize private investment in support of infrastructure and resilience projects.
- *Establishing more effective partnerships with the private sector.* Public-private partnerships (“P3s”) are the foundation of local resilience design, implementation, maintenance, and financing. These partnerships will need to expand in scale, sophistication, and impact as climate change intensifies. The Fund would enhance the capacity of the Town to develop and advance innovative relationships with a broad spectrum of private firms and actors.
- *Reducing stress on Town budgets.* The Fund will not eliminate the need for public investment in resilience infrastructure; local infrastructure will always require local government leadership and investment. However, the Resilience Fund would potentially reduce pressure on local budgets by creating efficiencies, leveraging private investment, and reducing the cost of capital. It would also create opportunities to attract state and federal grants and investments, further reducing stress on Town budgets.

***Climate Resilience Revenue Plan.*** The Resilience Fund would support key functions and activities in support of the Town’s Resilience CIP and overall Resilience Program. If designed appropriately, the Fund will have the capacity to secure and leverage multiple revenue sources. Therefore, an important function of the Director, through the auspices of the Fund, will be to develop a climate resilience revenue plan that addresses the unique resource needs of the three project typologies: baseline, enterprise, and capital infrastructure.

Revenue sources supporting resilience programs and infrastructure will be, by necessity, diverse. However, all potential revenue sources will fall within the three categories mirroring the project typologies: operational or baseline revenues, enterprise or ongoing revenue streams, or capital or project-specific revenues.

There are any number of potential revenue sources in the form of fees, taxes, and grants that have the potential to provide either temporary or permanent support for the Resilience Fund and its activities. Key issues to consider when assessing the potential efficacy of a revenue source include its connection to the resilience issue; the potential scale of the source; the potential longevity of the source; and the impacts—positive or negative—on the community (specifically how the revenue source impacts fairness and equity). Specific opportunities within each of the three revenue categories include the following

- *Operational-baseline revenues.* Operational funds are those funds that, in theory, support any institutional activity. In actuality, they support those activities that are often not directly included in the project financing costs. In other words, operational

funding supports administration (indirect) *and* program-related activities (direct). Potential revenue sources include general fund revenues, targeted revenues from taxes and/or special service fees, grant funding, and enterprise program funds (exclusive to enterprise programs).

It is important to note that an essential component of climate resilience baseline programs is contingency funding to support disaster response. As the risk of climate hazards increases, the need for contingency funds, either through General Fund balances or more targeted funds will also increase. In addition, there is a direct connection between the level of contingency funding needed and the level of proactive project related investments in the community. If the community chooses not to expand its resilience infrastructure investments, it will therefore need to expand its emergency preparedness budgets. Conversely, expanded resilience investments tend to lessen the need to draw on emergency response funds following a disaster. In other words, while both resilience and emergency response investments are needed, there is a negative correlation between the two.

- **Enterprise revenues.** Enterprise funds are used to support activities for which a fee is charged to external users for goods or services. While the Resiliency Fund will not officially be an enterprise program, it will likely have important characteristics of an enterprise fund, including sustained revenue streams in the form of fees supporting activities directly associated with the assessment and collection of those fees. Additionally, enterprise and enterprise-like funds support all expenses associated with the enterprise—direct and indirect. Therefore, they are appropriate for supporting administrative, programmatic, and infrastructure capital costs.
- **Project-specific or capital revenues.** Project-specific funds refer to those revenues that are assessed and leveraged specifically to support a particular project. Though they can be in the form of taxes and fees, grants, or other investment revenues, they are often in the form of fees or infrastructure revenues. As is the case with enterprise funds, project funds can support administrative costs and direct project costs. Potential project-specific revenue sources include: general funds; property taxes (specifically through Special Taxing Districts and/or Tax Incremental Financing Districts); private capital through public-private partnerships and concession agreements; and private and nonprofit philanthropic investment, including donations, grants, and program investments.

There are clear overlaps between the three primary revenue categories. For example, fees generated through enterprise funds can cover all three revenue categories. Alternatively, project-specific funding must be dedicated, by definition, to costs that are associated with the project; while some of that may be administrative, those funds *cannot* cover the administrative costs associated with a program (i.e., outreach, communications). Therefore, while there is some overlap here, the distinctions between these three categories are what will enable Town leaders to identify potential sources of revenues most effectively.

Identifying and leveraging revenue streams is one of the most politically contentious and difficult tasks facing leaders in any community; Portsmouth is no exception. For that reason, establishing the resilience program and the Resilience CIP will be crucial for guiding the Town through very complex funding and financing decisions in the future. Specifically, the RCIP process will enable Town leaders to synchronize existing capital investment needs with anticipated climate resilience

needs.<sup>1</sup> As a result, the basic function of a revenue plan will be to increase the efficiency of existing fiscal resources thereby reducing the need for leveraging new resources. Certainly, new revenue will be needed for new infrastructure projects at some point in the future; the RCIP and the revenue plan will ensure that every public dollar invested will have maximum impact.

***Project financing and cash flow management.*** The Fund will have the capacity to facilitate financing transactions, directly or indirectly, in support of resilience projects and practices throughout the Town. The SNEP Project Team recommends that the Resilience Fund be established as an internal component of the Portsmouth Resilience Program. This will have two advantages. First, the resources supporting the Fund’s activities will be restricted to those activities. This provides system oversight and accountability. Second, the financing activities associated with the Town’s resilience action plan will be conducted within the existing systems, agencies, and structures. This will allow the Fund to be established in a manner that leverages the strengths of that system and ensures that the resilience process is efficient and effective. The Fund will likely focus on three types of leveraging tools and processes: bond financing, value capture, and public-private partnerships.

- ***Bond financing.*** The use of municipal or publicly issued bonds is ubiquitous regarding infrastructure financing. Borrowing is essential for large-scale infrastructure projects and the use of tax-free bonds provides local and state governments with a relatively inexpensive source capital with long-term payback time horizons. The capacity to issue traditional tax-free revenue bonds will be important for many of the large-scale structural practices and projects in the Town’s project portfolio.
- ***Value capture.*** Communities in Rhode Island rely heavily on property tax revenues to support government operations.<sup>2</sup> As a result, climate impacts on local assets and infrastructure have the potential to significantly impact local budgets. An important budgetary and financing mechanism will be to capture some or all the value that public infrastructure generates for private landowners. By capturing the subsequent increase in value, governments can recuperate funds, which can ultimately be used to generate additional value for communities in the future. Two specific types of value capture financing mechanisms that may benefit Portsmouth include:
  - ***Special assessment districts*** are independent, special-purpose governmental units, other than school district governments, that exist as separate entities with substantial administrative and fiscal independence from general-purpose local governments. Special district governments provide specific services that are not being supplied by existing general-purpose governments. Most perform a single function, but in some instances, their enabling legislation allows them to provide several, usually related, types of services. Special districts will not replace the

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<sup>1</sup> For example, one of the most common funding requirements for local governments is associated school construction and redevelopment. Coupling climate resilience and mitigation outcomes to school construction can enable local officials to capture multiple investment outcomes, and in some cases reduce construction costs. (see: <https://publications.aecom.com/sustainable-legacies/projects/helping-dc-public-schools-create-green-and-sustainable-buildings>). The same is true regarding transportation redevelopment and stormwater/flooding management. Linking aggressive stormwater management to preplanned road infrastructure upgrades creates long-term financing efficiencies (see: <https://www.cnt.org/sites/default/files/publications/Increasing%20Funding%20and%20Financing%20Options%20for%20Sustainable%20Stormwater%20Management.pdf>).

<sup>2</sup> [https://www.lincolnst.edu/sites/default/files/ri\\_nov\\_2016.pdf](https://www.lincolnst.edu/sites/default/files/ri_nov_2016.pdf)

need for broad-scale, community-wide revenue streams. However, value-capture programs will enable particular communities to address unique hazards and climate risks efficiently and effectively, while at the same time reducing the funding burden to residents and businesses that are not directly impacted.

- ***Tax increment financing (TIF)*** is a tool used by municipal governments to stimulate economic development in targeted geographical areas. TIFs are used to finance redevelopment projects or other investments using the anticipation of future tax revenue resulting from new development. When a TIF district is established, the “base” amount of property tax revenue is recorded using the status quo before improvements. To the extent such efforts are successful, property values rise, leading to an increase in actual property tax receipts above the base. While the base amount of property tax revenue (the level before redevelopment investments) continues to fund city services, the increase in tax revenue is used to pay bonds and reimburse investors and is often captured as city revenue and allocated toward other projects.

TIFs do not generate or leverage new revenue sources or tax assessments; rather, they are mechanisms for capturing the value of economic revitalization and investment. While the potential use of TIFs as a resource for incentivizing resilience investment is still in its nascent stages, the potential for TIFs and resilience investments to be linked as components of long-term economic development strategies may reduce revenue needs in the long-term, making necessary resilience infrastructure investments more viable.

Portsmouth has explored using TIFs in the past. While there was some confusion around that project, there may be an opportunity to use targeted public outreach and engagement to raise support and/or receptiveness to TIFs.

- ***Public-private partnerships.*** A public-private partnership (P3) is a cooperative arrangement between two or more public and private sectors, typically of a long-term nature. In other words, it involves government(s) and business(es) that work together to complete a project and/or to provide services to the population. P3s have become an increasingly popular way to get major infrastructure projects built. Compared with traditional procurement solutions, P3s can also spread a project’s cost over a more extended period and can thus free up public funds for investment in sectors in which private investment is impossible or otherwise inappropriate. In short, P3s can be very effective tools for delivering effective, cost-efficient projects and associated services. As governments seek to upgrade infrastructure and address the challenges of climate change, among other objectives, the need for private-sector involvement has grown. P3s will likely become important mechanisms for addressing climate risks in coastal communities like Portsmouth given their capacity to manage certain types of risk.

## **PART V: CONCLUSION & NEXT STEPS.**

Through the completion of this technical assistance project, and through the Town’s previous HMP and MRP planning activities, the Portsmouth community and Town leadership have clearly demonstrated their commitment to addressing their climate impacts. With a strong foundation of resilience plans, Portsmouth is well poised to take the next steps to ensure its resilience vision and goals are cost-effective, efficient, and successfully implemented. To that end, we recommend the following next steps to build on the momentum from the RCIP process:

- Establish the Resilience Director position.
- Convene a municipal task force charged with conducting a feasibility study for the Resilience Program. The study should examine the optimal institutional structure of the Program, as well as the details of the required elements to support the Director, assessment activities, and financing system discussed in Recommendations 1–5.
- Quickly move to take advantage of, and leverage, available RIIB funds to support the RCIP projects identified in this technical assistance project. RIIB is eager to support “shovel-ready” resilience projects across Rhode Island. Therefore, the Town should seize the opportunity to work directly with RIIB to pursue potential short-term resilience funding opportunities for several of the already identified RCIP projects.
- Use the current RCIP to develop a portfolio of projects and programs that are ready for implementation, funding, and financing.
- Begin laying the groundwork to revisit the RCIP process on an annual basis. Ideally, this would be scheduled to align with the Town’s existing budgetary and CIP calendar(s).

These five “Next Steps,” coupled with the five key recommendations above, offer Portsmouth a clear roadmap for resilience planning and financing in the short-, mid-, and long-term. The SNEP Project Team is encouraged by the progress Portsmouth has made to date, and believes a decision to build on this momentum will prove invaluable to the resiliency of the Town of Portsmouth for years to come.



*This report was produced by the dedicated team at [Throwe Environmental, LLC](#) in the company’s role as a core partner within the SNEP Network. Throwe Environmental is committed to developing climate resilience, environmental finance, and policy and governance solutions for its public, private, and nonprofit clients. As a SNEP Network partner organization, Throwe Environmental focuses on financing, training, and leadership development. Throwe Environmental is based in Bristol, RI and helps communities nationwide address their climate challenges.*

# APPENDIX A - RESILIENCE CAPITAL IMPROVEMENT PLAN

* Project Name (+ sub-items)	Department	Contact	Priority	Timeline	Details	Reference Doc	Justification
* <b>Replace stormwater system in Portsmouth Park</b> (Aquidneck Ave and Narragansett Ave)	DPW	Brian Woodhead	TOP (#1)	Long-term (5yrs+)	Need to replace approx 2000 ft of stormwater pipe and install 19 pre-cast catch basins on Narragansett and Aquidneck Avenues and connecting streets.	Subgroup Meetings, Illicit Discharges Report	Stormwater pipes are in need of immediate repair
<b>Prudence Island second generator for pump station</b>  Small mobile generator	Prudence Island Water Authority	Robin Weber (Chair)	HIGH	Med-term (3-5yrs)	Gary did CDBG-DR grant for this a few years ago. Currently a large fixed generator in place. Second generator would be small mobile generator that can plug into the first one. Tanks, etc. are not needed	<a href="#">HMP Spreadsheet</a>	High priority need to protect Prudence Island water supply
* <b>Repair of stormdrains in Island Park identified in TV camera scoping project</b>	DPW	Brian Woodhead	HIGH	Long-term (5yrs+)	Six pipes are to be repaired or replaced. See the separate list of specific drainage lines needing work.	Subgroup Meetings, Illicit Discharges Report	Assessment has been completed, can move on to repair
<b>Landing Lane/Sand Point Dock (Prudence Island) improvements</b> (roadway repair, dock replacement, stormwater system, and erosion protection)	DPW	Brian Woodhead	MED-HIGH	Short-term (0-3yrs)	Roadway down to the beach. 25'x20' section has new concrete. The remaining section (25'x77') needs concrete removed and new concrete poured.	<a href="#">FY22-30 Capital Requests_HMP Spreadsheet_CRWG Meetings</a>	Project is already 1/3 of the way done and included in DPW budget. Should be finished by 2022. This is the roadway to Sand Point Dock that is used for emergency transport off the island
* <b>Riverside Avenue drainage project</b>	DPW	Brian Woodhead	MED-HIGH	Short-term (0-3yrs)	Underground Injection System needed to mitigate flooding	<a href="#">HMP Spreadsheet</a>	Low area of roadway with no drainage this will help with the flooding on this roadway
<b>Prudence Island/Hog Island fire fighting equipment replacements/prevention measures</b>  Modern, off-road capable equipment replacements (pumps, garage facility, etc.)  Installation of new prevention measures	Portsmouth Fire District (aid from other municipalities), Town Administrator, PI Volunteer Fire Dept.	Rich Rainer, Chief Ford	MED-HIGH	Med-term (3-5yrs)	Coordination with private fire district. Garage facilities needed, could build structure on private property. Pumps needed. Everything on Hog Island is private property.	<a href="#">PI Community Wildfire Plan, CRWG Meetings</a>	Hazard level of fire and drought on Prudence Island. No firefighting capabilities or pre-staged equipment, facilities, paved roads on Hog Island.
<b>Portsmouth Shelter (Aquidneck)</b>  Structural improvements (i.e., hurricane clips) to HS gym (fieldhouse) to serve as shelter  Mobile generators	Town Administrator, EMA Director, School Superintendent	Rich Rainer, Ray Perry, Tom Kenworthy	MEDIUM	Short-term (0-3yrs)	Roof improvements are being actively pursued. Town is asking for quote on improvements. Discussion is ongoing around which gym space(s) is/are most appropriate	<a href="#">MRP Spreadsheet_CRWG Meetings</a>	Currently no primary shelter on Aquidneck Island because HS gym is not suitable. Middle School is current secondary shelter
* <b>Generators for Hedley St. &amp; Prudence Island Transfer Stations</b>  Hedley St. Generator (1 mobile, diesel-fueled), some minor electrical, diesel tank  PI Generator (1 mobile, diesel-fueled), some minor electrical, diesel tank	DPW	Brian Woodhead	MEDIUM	Med-term (3-5yrs)	Mobile generators with some accessory needs	<a href="#">FY22-30 Capital Requests_HMP Spreadsheet</a>	Importance of keeping transfer stations running during a long-term power outage
<b>Dredging Founders' Brook</b>	DPW	Brian Woodhead	MEDIUM	Med-term (3-5yrs)	On CIP. Bundled with drainage projects on Riverside Ave and CFP RR Dock. Grant funds had to be pulled to CFP portion of project, so this project needs to be funded again.	<a href="#">HMP Spreadsheet</a>	Needs funding still after previous funding was pulled for CFP drainage project

## CAPITAL ITEMS

(Sheet 1 of 2)

This list of capital items includes on-the-ground projects that are intended to enhance climate resiliency. These projects align with traditional capital infrastructure projects that would appear on a capital improvement plan, and they are supported by the appropriate studies, assessments, etc.

### KEY:

- CRWG = Climate Resilience Workgroup (SNEP + Portsmouth)
- HMP = Hazard Mitigation Plan
- MRP = Municipal Resilience Program
- PI = Prudence Island
- CFP = Common Fence Point
- IP = Island Park

\* (Col. A) = Selected for consultant cost estimates to prepare Town for next stage of resilience planning



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## APPENDIX A - RESILIENCE CAPITAL IMPROVEMENT PLAN

* Program Name (+ sub-items)	Department	Contact	Priority	Timeline	Details	Reference Doc	Justification
* <b>Island Park Sea Level Rise Adaptation Planning Study</b>	Planning	Gary Crosby	<b>TOP (#1)</b>	Short-term (0-3yrs)	Sea level rise adaptation planning needed to identify strategies (including capital improvements) to enhance Island Park resilience	CRWG Meetings	Study to identify needed capital improvements will support on-going efforts to build resilience.
<b>Updated/improved evacuation routes</b>							
• Common Fence Point Route	EM	Ray Perry	<b>HIGH</b>	Short-term (0-3yrs)	Pressure from FEMA and RIEMA, does not require significant effort	CRWG Meetings	Planning needed to manage the evacuation routes. Not a significant expense
• Island Park Route							
• Melville Route							
<b>Melville Pond Dam Emergency Response/Action Plan</b>	Planning	Gary Crosby, Ray Perry	<b>HIGH</b>	Short-term (0-3yrs)	Just finished Rhode Resiliant grant to rehabilitate dam. Not very intensive (essentially a contact list, funded by staff time)	CRWG Meetings	Plans for 4 dams, need to be updated
	EM Director	Ray Perry	<b>HIGH</b>	Short-term (0-3yrs)	Several different pieces to be completed	CRWG Meetings	Guides town's emergency response. Plans meet minimum requirements, but need to make operational needs
<b>Updated Town Emergency Response Plan</b>							
* <b>Townwide Road and Drainage System Assessment/Analysis</b>	Planning	Gary Crosby	<b>HIGH</b>	Short-term (0-3yrs)	Assessment of Town-owned (maintained) road and drainage system assets (conditions, need for replacement/upgrades) townwide taking into consideration projected changes in precipitation is needed.	Subgroup Meetings	Study to identify needed capital improvements will support on-going efforts to build resilience.
<b>Emergency communications</b>	Planning, Emergency Management, Town Administrator, DPW	Gary Crosby, Ray Perry, Rich Rainer, Brian Woodhead	<b>HIGH</b>	Short-term (0-3yrs)	Assessment of new equipment needs for PD, FD, and/or PEMA. Enhancement of interdepartmental communications operations (i.e., holistic risk planning and communications). Opportunity to also enhance capacities for environmental/climate-related communications and public education	CRWG Meetings	Continued conversations to improve and enhance emergency communications
<b>Prudence Island Shelter and substation assessment</b>	Fire District, Town Administrator	Rich Rainer	<b>HIGH</b>	Med-term (3-5yrs)	Currently in planning stages. Likely will not result in rehabilitation of existing facility. Might be bundled with public safety complex (see <b>Prudence Island Public Safety Complex/Shelter Study</b> ). Construction of a new substation to house equipment in a temperature controlled environment. Current Jepson Lane substation is sole power line to island	<a href="#">PI Community Wildfire Plan, CRWG Meetings</a>	Study required before capital project can be completed
<b>Hazard Assessment for Wildfire Suppression</b>	PF, PIVFD	Chief Ford, Chief Thurber	<b>HIGH</b>	Med-term (3-5yrs)	Fire is primarily an issue for PI, not AI, and PI Community Wildfire Plan has been done	<a href="#">PI Community Wildfire Plan</a>	Fire is a main hazard on PI
	DPW	Brian Woodhead	<b>HIGH</b>	Ongoing	Funded to \$800-900K/yr, could use more funding. Goal is \$1M/yr and maintain a minimum RSR of 72+. When 3-year paving plan is developed town takes in account if drainage or upgrade is needed to the drainage system before paving	<a href="#">FY22-30 Capital Requests</a>	Already funded to \$800K-900K/yr
<b>Road Paving and Drainage Program</b>							
<b>Establish neighborhood preparedness committees</b>	Emergency Management	Ray Perry	<b>MED-HIGH</b>	Short-term (0-3yrs)	Building off of successful models in CFP and PI, building capacity as an example of neighborhood engagement. Interest shown in this model from other neighborhoods. Future areas of focus to include Island Park and Hummocks Point (e.g. Cliff Avenue, areas under Sakonnet Bridge and an cove)	CRWG Meetings	Successful model has worked in some neighborhoods, interest in applying that model to others
<b>Assessment of flood-prone parcels to consider and/or for land acquisition for natural buffer advancement zones</b>	Planning	Gary Crosby	<b>MED-HIGH</b>	Long-term (5yrs+)	Up until 2009, there was an open space committee (volunteer). Their job was task 1a. There was a provision where a % of revenue from real estate transfer tax was put into a fund for open space acquisition. Cmte. ended in 2017/18. A good deal of coordination in past with ALT. Conflict about land prices/properties. ALT lost faith with Cmte. and Council disbanded. Council now has responsibility for recommendations about acquiring open space. CCP recommends reestablishing tax and reestablishing cmte. Places where they can migrate are not ideal. Town has never done any stuff	<a href="#">HMP Spreadsheet, MRP Spreadsheet</a>	Town's current land acquisition capacities are very low
<b>Zoning ordinance amendments</b>	Planning	Gary Crosby	<b>MEDIUM</b>	Med-term (3-5yrs)	Thought is to revisit zoning ordinance to make sure it aligns with CCP (needs to be done with entire zoning ordinance). Likely will hire consultants. Currently doing one for solar farms. Intention to re-write completely in next few years	<a href="#">HMP Spreadsheet</a>	Will have to update to align with CCP. Goal to re-write in short-term
<b>Adopt Post-Construction Stormwater Runoff Control Ordinance</b>	Planning	Gary Crosby	<b>MEDIUM</b>	Med-term (3-5yrs)	There is a soil and sediment control ordinance which serves some function for this	<a href="#">Draft Community Comprehensive Plan</a>	Has to be completed to be in compliance with Phase II permit MCMs.
<b>Develop land use management plans for Town-owned open space properties</b>	Planning	Gary Crosby	<b>MEDIUM</b>	Med-term (3-5yrs)	Plans needed to coordinate ongoing management activities	<a href="#">Draft Community Comprehensive Plan</a>	Town is engaging on management activities for these properties (mostly recreational), but no plans yet
<b>Emergency management and response enhancements</b>	Emergency Management	Ray Perry	<b>MEDIUM</b>	Med-term (3-5yrs)	Assessment of emergency operations needs (i.e., EOC, mobile command post, vehicles, training, softwares, etc.) to support a centralized emergency management hub that can manage different phases of crises. Focus on continuity of operations and hard and soft infrastructure needs. Assessments and enhancements should be tied to other planning/prioritization activities.	Public Workshop	Need to enhance emergency management, response, and COOP capabilities. All phases of resilience should be considered. Also supports NIMS requirements and eligibility for EM grants
<b>Prudence Island Public Safety Complex/Shelter Study</b>	DPW, Planning, Town Administrator, Police & Fire	Brian Woodhead, Gary Crosby, Rich Rainer	<b>MEDIUM</b>	Long-term (5yrs+)	Could potentially use federal funds dollars. Single complex to house Police, Fire, DPW, and perhaps also serve as a shelter (see Prudence Island Shelter and substation assessment). Funding has been challenging	CRWG Meetings, Subgroup Meetings	Study needs to be done before capital project can begin. Need to understand when, where, how, etc.
<b>Power Needs Assessment (pharmacy, grocery, north/south gas stations)</b>	Building Official	Building Official, EM Director	<b>LOW</b>	Short-term (0-3yrs)	Low priority, not started. Simple survey. 3 pharmacies, 1 grocery, 5 stations	<a href="#">HMP Spreadsheet</a>	Does not require significant effort
<b>Prudence Island and Hedley Transfer stations power assessments</b>	DPW	Brian Woodhead	<b>LOW</b>	Short-term (0-3yrs)	Effort is low	<a href="#">HMP Spreadsheet</a>	Does not require significant effort
• Hedley Station assessment							
• Prudence Island Station assessment							
<b>Complete Streets Study</b>	DPW	Gary Crosby, Brian Woodhead	<b>LOW</b>	Short-term (0-3yrs)	Gary has developed a draft complete streets ordinance. Already funded	<a href="#">FY22-30 Capital Requests</a>	Town roads already have existing capacity for multi-use. 1/4 of roads are state-owned

### PROGRAMMATIC ITEMS

(Sheet 2 of 2)

This list of programmatic items includes assessments, studies, or other operational exercises that are intended to supplement capital projects. However, these items themselves are not capital in nature. This list is intended to support ongoing conversations around future capital resilience projects in the Town of Portsmouth.

**KEY:**

- CRWG = Climate Resilience Workgroup (SNEP + Portsmouth)
- HMP = Hazard Mitigation Plan
- MRP = Municipal Resilience Program
- PI = Prudence Island
- CFP = Common Fence Point
- IP = Island Park

\* (Col. A) = Selected for consultant cost estimates to prepare Town for next stage of resilience planning



*This resource was produced by the dedicated team at **Thrive Environmental, LLC** in the company's role as a core partner within the SNEP Network. Thrive Environmental is committed to developing climate resilience, environmental finance, and policy and governance solutions for its public, private, and nonprofit clients. As a SNEP Network partner organization, Thrive Environmental focuses on financing, training, and leadership development. Thrive Environmental is based in Bristol, RI and helps communities nationwide address their climate challenges.*

# APPENDIX B – CRITERIA FOR FUNDING

## CRITERIA FOR FUNDING: CREATING A RESILIENT PORTSMOUTH

### Prioritization of Short, Medium, and Long-Term Projects

June 2021

#### **Criteria Used to Fund Projects**

All projects should be categorized as short-, medium-, or long-term based on when funding is needed (i.e., short-term projects necessitate funding within the next 3 years, medium-term within the next 3-5 years, and long-term within the next 5 years or more). In order to identify funding classification, the following criteria should be used.

*Note: These criteria were developed using information from existing town documents and reports (i.e., 2018 Portsmouth Hazard Mitigation Plan [HMP] and 2019 Municipal Resilience Program [MRP] Summary of Findings), as well as from Town staff and local experts.*

#### **Characteristics of Short-term Projects:**

- Projects and/or phases of projects to be initiated (through planning, assessment, estimation for future projects, etc.) between **now and 3 years from now**
- Projects that seek to address an acute problem or a recurring annual problem (operational/capital)
- Projects that would provide information (i.e., monitoring, assessing) about identified problems about which information is currently lacking
- Projects that would decrease likelihood of serious property damage and/or loss of life
- Projects that will help protect critical facilities (e.g., Police Station, Fire Station, Town Hall, etc.) or top/high priority assets (see Climate Prioritization Tool)
- Projects that assess the criticality of threats to ecosystems (Prudence Island, Melville Pond, and wastewater/septic issues, etc.)
- Projects that address stormwater issues that may have long-term implications as related to flooding and water quality
- Projects that address low-lying roads, especially those that provide sole access to neighborhoods (i.e., bottlenecks)
- Projects that will help protect important communications infrastructure
- Projects that enhance/establish evacuation routes and emergency shelters in the event of a natural disaster (including on Prudence Island)
- Projects that improve management activities, communications, and/or public outreach and education (operational expense—ongoing cost in budget)

#### **Characteristics of Medium-term projects:**

- Projects and/or phases of projects to be initiated between **3 and 5 years from now**
- Projects that address incremental problems or problems that will become acute in 3-5 years
- Projects that would assess vulnerable town geographies (e.g., Common Fence Point, Island Park, Prudence Island)
- Projects that address public facilities (libraries, schools, admin offices, etc.) or medium priority assets (see Climate Prioritization Tool)
- Projects that would address the effects of hazards of high concern (hurricane, nor'easters, inland and coastal flooding, snowstorms, high winds, sea-level rise)

- Projects that address/assess changing natural systems (i.e., salt marsh migration)
- Projects that create systemic redundancies/safeguards to enhance resilience

**Characteristics of Long-term projects:**

- Projects and/or phases of projects to be initiated **5 or more years from now**
- Projects that address chronic/ongoing problems or problems that will become acute in 5+ years
- Projects that address the effects of hazards of medium and low concern (as articulated in the HMP)
- Projects that restore natural systems
- Projects that address low priority assets (see Climate Prioritization Toolkit)

**Meeting Portsmouth's Priorities: Goals of Short-Term Projects**

All projects that fall under the following goals and priorities should be classified as **short-term** projects:

- Natural Systems
  - Any project that addresses water resource challenges, including management (wastewater, stormwater, etc.)
  - Any project that improves water quality or larger ecological integrity
- Community and Social
  - Any project that improves awareness, education, and outreach
  - Any project that decreases the likelihood of loss of life
  - Any project that protects adversely vulnerable populations (elderly, Prudence Island population, etc.)
- Built Systems
  - Any project that directly improves the resiliency of critical facilities, built systems and assets
  - Any project that decreases the serious likelihood of property damage
- Economic and Financial
  - Any project that improves the resiliency of economic and financing systems
  - Any project that mitigates financial losses

**Meeting Portsmouth's Priorities: Goals of Medium-Term Projects**

All projects that fall under the following goals and priorities should be classified as medium-term projects to be funded.

- Natural Systems
  - Any project that addresses open space goals
  - Any project that improves the resiliency of natural systems and habitats
- Community and Social
  - Any project that promotes regional coordination across Aquidneck Island
  - Any project that improves housing affordability, resiliency, and availability
  - Any project that improves the resiliency of social systems and assets
- Built Systems
  - Any project that improves or enhances community design
  - Any projects that address/assess important public facilities (libraries, schools, admin offices, etc.)
  - Any project that directly improves infrastructure networks (water, utilities, transportation)

- Economic and Financial
  - Any projects that secure funding to further the goals of the HMP and MRP

**Meeting Portsmouth's Priorities: Goals of Long-Term Projects**

All projects that fall under the following goals and priorities should be classified as long-term projects to be funded.

- Natural Systems
  - Any project that restores natural systems (wetlands, streams, etc.)
  - Any project that addresses wildlife challenges
- Community and Social
  - Any project that enhances Portsmouth's historical character/culture
  - Any project that directly improves recreation
- Built Systems
  - Any project that develops new or redevelops existing facilities within an established community design
- Economic and Financial
  - Any project that addresses ongoing/chronic economic vulnerabilities or financing system weaknesses



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