



**AUGUST 2024**

# **ENHANCING COMMUNITY RESILIENCE: HAZARD MITIGATION STRATEGIES FOR THE TOWN OF NEW LEBANON**



POWERS, S. 2024. VIEW OF THE VALLEY NEW LEBANON, NY

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# ACRONYMS USED

**CC** - Columbia County

**CCECG** - Cornell University Cooperative Extension of Columbia Greene

**CDBG-DR** - Community Development Block Grant - Disaster Recovery

**CSC** - Climate Smart Communities

**EWP** - Emergency Watershed Protection

**EMP** - Emergency Management Plan

**EPF** - Environmental Protection Fund

**FEMA** - Federal Emergency Management Agency

**GHG** - greenhouse gas

**GIS** - Geographic Information System

**HMGP** - Hazard Mitigation Grant Program

**HMP** - Hazard Mitigation Plan

**HREP** - Hudson River Estuary Program

**LMS** - Local Mitigation Strategy

**LPN/NRD** - Lower Platte North Natural Resources District

**LVPA** - Lebanon Valley Protective Association

**NAACC** - North Atlantic Aquatic Connectivity Collaborative

**NYPA** - New York Power Authority

**NYSDEC** - New York State Department of Environmental Conservation

**NYSERDA** - New York State Energy Research and Development Authority

**OEM** - Office of Emergency Management

**PE** - Pledge Elements

**PPA** - Power Purchase Agreement

**PV** - photovoltaic

**RSX** - road-stream crossing

**USDA** - United States Department of Agriculture

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# ACKNOWLEDGEMENTS

This report would not have been possible without the support and guidance of several individuals who contributed their expertise and time to our project. We would like to extend our deepest gratitude to:

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- **Marc Anthonisen**, Project Advisor, for his insightful guidance and valuable feedback throughout the project's development.
- **Rebecca Morgenstern Brenner**, Faculty Advisor at Cornell Brooks School, for her academic mentorship and encouragement, which greatly enhanced the quality of our work.
- **Tistrya Houghtling**, Town Supervisor, for her steadfast support and commitment to fostering collaboration and progress within the community.
- **The Town of New Lebanon, New York**, for their collaboration and openness in supporting our efforts to contribute to the community's hazard mitigation strategies.

We appreciate the opportunity to work with such dedicated and passionate individuals and look forward to the positive impact of our combined efforts.



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# EXECUTIVE SUMMARY

The Town of New Lebanon, New York, is actively enhancing its climate resilience through its participation in the Climate Smart Communities (CSC) program. As the first town in Columbia County to achieve both Bronze and Silver Certification, New Lebanon exemplifies leadership in environmental sustainability and resilience (Greenwaldt-Simon, 2024b). This report, prepared by Hazard Mitigation Interns from Cornell University's Jeb E. Brooks School of Public Policy offers strategic recommendations to improve New Lebanon's ongoing hazard mitigation efforts, focusing on flood risk reduction and community resilience. Given that the Federal Emergency Management Agency (FEMA) requires counties to update their Hazard Mitigation Plan (HMP) every five years for eligibility for non-emergency disaster assistance funding, these recommendations aim to align New Lebanon's needs with the Columbia County HMP, last updated in 2018, to form a cohesive county-wide disaster mitigation strategy (Federal Emergency Management Agency [FEMA], 2024).

The report outlines seven key recommendations. The first is to enhance public awareness and preparedness for flood risks through community engagement and education initiatives, including a community-wide flood risk awareness campaign in partnership with the Cornell Cooperative Extension of Columbia Greene (CCECG). The second recommendation is to implement stream restoration projects and improve culvert and drainage system maintenance at Shatford Park Creek to prevent flooding and further erosion to maintain ecological balance. The third advises the installation of emergency power generators, particularly solar battery systems, in critical community facilities to ensure service continuity during extreme weather events. Fourth, the report proposes establishing a formalized Emergency Management Plan (EMP) to formalize local emergency preparedness and response capabilities. Furthermore, the report emphasizes the importance of advocating for updated flood maps by encouraging county and state officials to prioritize this need in accordance with FEMA standards for the fifth recommendation. It also recommends conducting a comprehensive assessment and developing a management plan for culverts and dams in partnership with CCECG and finalizing the closure of the former New Lebanon landfill to prevent hazardous chemical spread, as mandated by the New York State Department of Environmental Conservation. These evidence-based recommendations are aligned with state and national hazard mitigation goals and build on New Lebanon's ongoing CSC program efforts. By implementing these strategies, New Lebanon can significantly reduce its vulnerability to natural disasters, enhance community resilience, and secure increased disaster mitigation funding through FEMA.

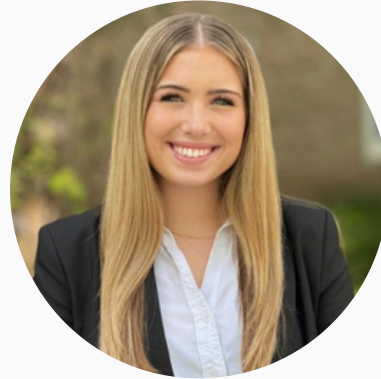
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# TEAM MEMBERS

## THE INTERNS BEHIND THIS PROJECT



**ALEJANDRO J. RAMOS**  
HAZARD MITIGATION INTERN



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HAZARD MITIGATION INTERN

### ***The Role of the Interns***

As Hazard Mitigation Interns, our role is to support the Town of New Lebanon in its ongoing efforts to enhance community resilience against natural disasters. Commissioned by the New Lebanon Climate Smart Communities Task Force as interns of Cornell University’s Jeb E. Brooks School of Public Policy, our primary responsibilities include conducting independent research, consulting with policy experts, and developing actionable recommendations for hazard mitigation. We analyze the town’s current vulnerabilities, particularly focusing on flood risks affecting critical areas and assets. By investigating successful hazard mitigation strategies from communities with similar vulnerabilities and features, we identify best practices that can be adapted to New Lebanon’s unique context. We engage closely with local officials, community members, and experts to gather insights, validate our findings, and ensure our recommendations are practical and well-supported. Our work involves creating detailed, evidence-based recommendations for hazard mitigation, complete with implementation steps, potential funding sources, and relevant case studies. Finally, we prepare a comprehensive report and presentation to communicate our findings and recommendations to the New Lebanon Climate Smart Communities Task Force and the Town Board.

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# INTRODUCTION

## **Overview and Purpose**

The Town of New Lebanon, located in eastern New York State, remains at the forefront of climate mitigation and adaptation efforts. This commitment to environmental stewardship and climate resilience is exemplified by the town's active participation in the CSC program. In 2021, New Lebanon became the first town in Columbia County to achieve Bronze Certification under the CSC program and became the first community in the Capital Region to obtain Silver Certification as of April 2024 (Greenwaldt-Simon, 2024b). These milestones reflect the town's proactive approach to addressing climate challenges and its dedication to creating a sustainable and resilient community.

This report, prepared by the Hazard Mitigation Interns of Cornell University's Jeb E. Brooks School of Public Policy for the New Lebanon Climate Smart Communities Task Force aims to provide comprehensive recommendations for enhancing the town's hazard mitigation strategies to inform the Columbia County Hazard Mitigation Plan (HMP). FEMA requires counties to update their HMP every five years to remain eligible for non-emergency disaster assistance funding, including grants for mitigation projects (FEMA, 2024). HMPs usually include short and long-term strategies for municipalities to implement to mitigate risks associated with natural emergencies, including loss of life, injuries, and property damage, thereby helping to ensure towns are prepared for natural disasters. Columbia County's HMP was last updated in 2018.

In this report, *Enhancing Community Resilience: Hazard Mitigation Strategies for the Town of New Lebanon*, seven strategic recommendations are presented to enhance New Lebanon's hazard mitigation efforts, specifically focused on mitigating flood risk and improving overall community resiliency. These recommendations are designed to align New Lebanon's specific needs with the county HMP for a unified county-wide disaster mitigation strategy that addresses the town's current vulnerabilities while building on the existing hazard mitigation efforts, partnerships, and resources.



POWERS, S. 2024. FALL SCENE AT MEIZINGER LAKE NEW LEBANON, NY

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# INTRODUCTION

## ***Background and Context***

New Lebanon's hazard mitigation efforts are part of a broader county-wide initiative to update its disaster mitigation plans, a process that occurs every five years to access non-emergency disaster assistance and hazard mitigation funding (FEMA, 2024). This initiative not only fosters collaboration among towns within Columbia County and enables the county to access FEMA grants for disaster mitigation but also helps ensure local communities are prepared for natural disasters. The recommendations in this report are intended to inform the county's HMP of New Lebanon's unique needs and guide the Town Board in implementing effective and sustainable mitigation actions. They are also designed to provide insights on current vulnerabilities and areas for improvement in the New Lebanon hazard mitigation strategy based on new data, emerging risks, and progress made in actions from the previous Columbia County HMP from 2018.

As global climate change progresses, the frequency and severity of disasters in the region are expected to increase. According to New York State Energy Research and Development Authority (NYSERDA) (2023) data, counties in New York will experience six to seven heavy rain events and three to six heat waves yearly in the 2050s (Kamis, 2023). Experts expect extreme rain events to pose a significant danger to Columbia County's climate, significantly threatening communities in flood-prone areas, including mobile homes (Flood, n.d.). While rainfall will be dangerous for infrastructure and human life in New Lebanon, temperature variability will also worsen. Extreme heat is considered the leading cause of death from hazardous weather events in the US by the National Weather Service (*Climate Change*, n.d.-b). With climate change intensifying the severity, duration, and frequency of extreme heat events, New York State is projected to face a significant increase in days above 90°F and the number of annual heat waves by 2050. The New York State Department of Environmental Conservation (NYSDEC) explains, "Between 2000 and 2004, New York experienced an average of seven heat waves every ten years. By the 2050s, this rate could increase to up to eight heat waves per year for some regions of the state" (*Extreme*, n.d., para. 2). Vulnerable populations, including people of color, Indigenous People, the unhoused, older adults, and those with chronic illnesses, will continue to be disproportionately affected by these changes due to factors such as socioeconomic status.

The importance of hazard mitigation cannot be overstated. With the increasing frequency and intensity of natural disasters, it is crucial for communities to be prepared and resilient to changes in the natural environment. Effective hazard mitigation reduces the long-term risks to life and property from natural hazards, minimizing recovery costs and enhancing the safety and well-being of residents. Based on these climate risks, this report is designed to address the vulnerability of New Lebanon's critical areas and assets, identified as particularly susceptible to flood risks, temperature variability, and intense weather.

Note: For more information and details about New Lebanon's unique climate risks and environmental challenges, refer to the **Climate Vulnerability Assessment for the Town of New Lebanon, New York (2021)**, prepared by Jessie Hughes and Waqar Akhtar. The full report is available on the Town of New Lebanon website or [here](#).



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# INTRODUCTION

## ***Methodology***

The following recommendations are the result of extensive research, consultations with policy experts, and analysis of successful hazard mitigation strategies implemented in similar communities across the country. We conducted a thorough assessment of New Lebanon's current vulnerabilities, particularly focusing on flood risks affecting the town's critical areas and assets, to formulate these strategic recommendations. Our approach included:

- **Reviewing Existing Plans:** Identifying gaps and areas for improvement of existing hazard mitigation plans since the previous HMP update in 2018.
- **Consulting Experts:** Engaging with local and regional experts in climate policy, disaster mitigation, and environmental justice.
- **Benchmarking Best Practices:** Analyzing successful hazard mitigation strategies and best practices from other communities recognized for their effective hazard mitigation strategies, especially those with similar vulnerabilities.
- **Establishing Feedback Mechanisms:** Maintaining ongoing feedback processes with the CSC chair, Steve Powers, and the Town Board to align with New Lebanon's needs and priorities.
- **Visiting New Lebanon in May of 2024:** Traveling to New Lebanon in May 2024 to see flood-prone areas and identify locations for specific hazard mitigation projects.
- **Evaluating Resources and Funding Opportunities:** Identifying potential funding sources and grant opportunities to support the implementation of our recommendations.
- **Securing Preliminary Approval:** Obtaining initial approval from the New Lebanon Town Board for the proposed hazard mitigation recommendations.



POWERS, S. 2024. THE TANNERY AT DARROW SCHOOL, NEW LEBANON, NY

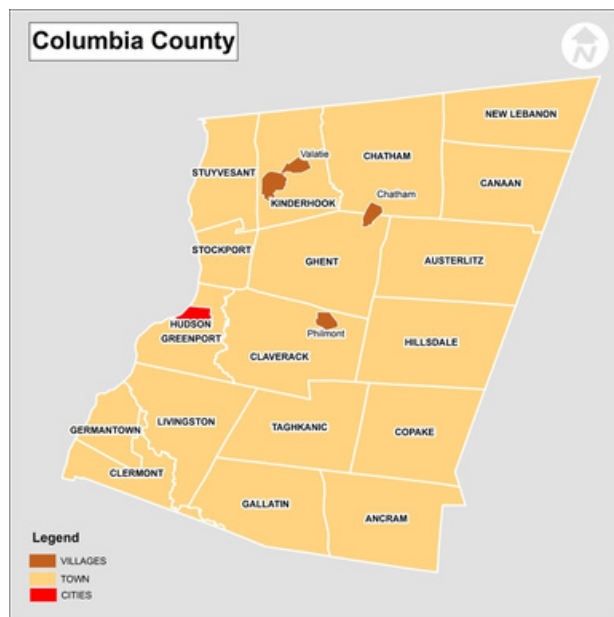
# INTRODUCTION

## ***Columbia County Needs: The HMP Planning Process***

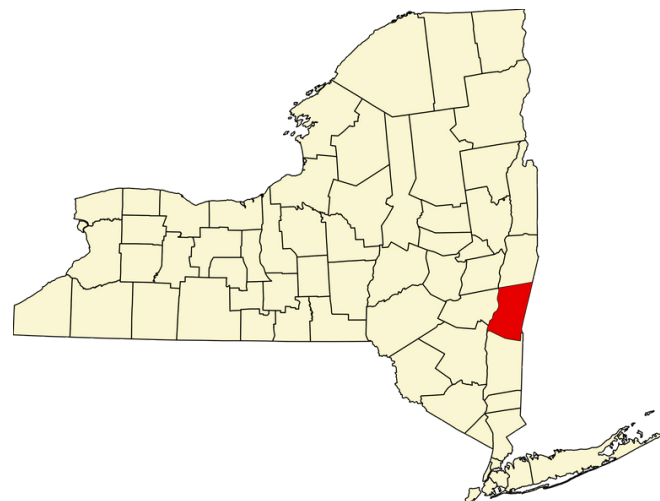
The HMP planning process is mandated by FEMA every five years and coordinated at the county level (FEMA, 2024). This process ensures that all towns within Columbia County, including New Lebanon, are prepared for natural disasters and can access federal funding for mitigation efforts. The HMP planning process involves conducting a thorough analysis of potential hazards and assessing the risks they pose to communities within the county. This includes gathering data on historical events, evaluating current vulnerabilities, projecting future risks based on climate models, and assessing progress from the last HMP.

Community collaboration is a key component, as representatives from all towns in the county share information, discuss common challenges, and develop coordinated strategies for hazard mitigation. This collaborative approach ensures that the plan addresses the needs of the entire county while recognizing the unique circumstances of each community. The development of mitigation strategies involves identifying and prioritizing actions that can reduce the risks and impacts of natural disasters, including both structural measures like improving infrastructure and non-structural measures like community education and emergency planning.

Completing the HMP enables the county to apply for FEMA grants and other funding sources dedicated to disaster mitigation, which are essential for implementing the recommended actions and building long-term resilience. Given that the HMP is updated every five years, the plan is designed to reflect new data, emerging risks, and progress made in implementing mitigation actions, ensuring that it remains relevant and effective in addressing the evolving challenges posed by natural hazards. By participating in the HMP planning process, New Lebanon not only enhances its own preparedness and resilience but also contributes to a comprehensive, county-wide strategy for disaster mitigation.



NY SUBURBAN HOMES. 2024. MAP OF COLUMBIA COUNTY



BENBENICK, D. 2024. MAP OF NY STATE, COLUMBIA COUNTY HIGHLIGHTED IN RED

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# INTRODUCTION

## Seven Recommendations Set Forth

### *Introduction to Recommendations*

The following recommendations have been developed to enhance New Lebanon's resilience to natural disasters and improve the overall safety and preparedness of the community. These recommendations are the result of thorough research, stakeholder consultations, and analysis of best practices from similar communities. They address critical areas such as community engagement, infrastructure improvements, emergency preparedness, and environmental management. Each recommendation is designed to be practical, evidence-based, and aligned with the town's broader climate and sustainability goals. By implementing these recommendations, the Town of New Lebanon can significantly reduce its vulnerability to natural disasters, enhance its community's resilience, and inform the Columbia County HMP for increased disaster mitigation funding through FEMA.

### *Structure of the Report*

This report is structured to provide a clear and actionable roadmap for New Lebanon's hazard mitigation efforts. Following this introduction, each of the seven recommendations is presented in detail. For each recommendation, we outline specific implementation steps, potential grant funding links, and relevant case studies or examples from other communities. The recommendations are as follows:

1. **Community Engagement and Education:** Enhancing public awareness and preparedness for flood risks through education and community involvement, in part through partnership with Cornell Cooperative Extension of Columbia Greene's (CCECG).
2. **Shatford Park Creek Erosion Mitigation:** Implementing stream restoration projects and improving culvert and drainage system maintenance.
3. **Installation of Emergency Power Generators in Critical Community Facilities:** Ensuring uninterrupted services during extreme weather by installing backup generators at key facilities, specifically a solar battery system, with the potential for the site to serve as a Resilience Hub.
4. **Establishment of a New Lebanon Emergency Management Plan:** Establishing a formalized emergency management plan to enhance local emergency preparedness and response capabilities.
5. **Advocating for State-Level Updates to Local Flood Maps:** Using the HMP process to urge the county and state to prioritize updating local flood maps in Columbia County in accordance with FEMA standards for improved flood mitigation strategies locally.
6. **Culvert and Dam Assessment & Development of Management Plan:** Partnering with CCECG to assess and manage flood mitigation infrastructure.
7. **Finalize Landfill Closure:** Finalizing the closure of the former New Lebanon landfill to prevent the spread of hazardous chemicals in the surrounding water table as mandated by the NY Department of Environmental Conservation.



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# RECOMMENDATION #1

## I. Community Engagement and Education

One of the most effective ways to mitigate flood risks in New Lebanon is through community engagement and education. Education on what to do before, during, and after an emergency is crucial for minimizing risk and enhancing community safety. The Town of New Lebanon can significantly reduce the potential impacts of flooding on residents and businesses by increasing public awareness and preparedness. This recommendation aligns with the Cornell University Cooperative Extension of Columbia Greene's (CCECG) projects to implement the CSC program pledge element (PE) 9 for climate education and community engagement, which includes the delivery of flood risk awareness programs for New Lebanon (*Actions, 2018*). The following steps outline a comprehensive approach to enhance community engagement and education on flood risks and align with New Lebanon's CSC goals while leveraging the available expertise and resources at the CCECG. While ongoing, these steps aim to start in 2025 and run through 2026.

**Objective:** To enhance public awareness and preparedness for flood risks through education and community involvement.

### Implementation Steps

- 1. Launch a Community-Wide Flood Risk Awareness Campaign:** The first step is to initiate a campaign aimed at raising awareness about flood risks. This campaign, launching at the start of 2025, should include a variety of outreach methods, such as public information sessions, distribution of educational materials, and workshops. These sessions can cover topics such as the causes and impacts of flooding, flood preparedness tips, and the importance of community involvement in mitigation efforts.
- 2. Encourage the Use of the "NY Alert" System:** The "NY Alert" system is a valuable tool for communicating flood warnings and other emergency information to residents within the state. Promoting this system through the campaign and other materials will ensure that more residents are signed up and aware of real-time flood updates and safety instructions.
- 3. Develop Emergency Preparedness Information:** Create comprehensive emergency preparedness resources that can be accessed through various channels. This includes updating the municipal website with detailed emergency/disaster preparedness information and producing community-focused print resources and social media posts. These materials should provide clear, actionable steps that individuals and businesses can take before, during, and after a flood.
- 4. Engage Local Schools and Community Groups:** Partner with local schools, community groups, and organizations to spread awareness and educate younger generations about how to respond to natural disasters. Educational programs and interactive activities can be integrated into school curriculums and community events, ensuring that all age groups are informed and prepared.
- 5. Partner with CCECG:** By the end of 2024, formalize participation in the Climate Change Education & Engagement Program led by CCECG, focusing on CSC PE 9 *Education and Engagement* and PE 9 *Social Media* for the town's overall climate education and community engagement efforts to meet CSC requirements. This aligns with flood risk awareness programs as it includes CCECG developing an emergency preparedness municipal website, social media outreach, a print-based tool kit on emergency/disaster preparedness, and a Flood Guide for Residents and Businesses.

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### **Case Study: Hazard Mitigation Plan Integration Driven by Relationships in Colorado**

Between 2012 and 2013, Larimer County, Colorado, experienced two major disasters: the High Park wildfire in 2012 and severe flooding in 2013 (FEMA, 2024b). The flooding was particularly devastating, with many residents requiring helicopter rescues as high water levels isolated their homes. These events exposed significant communication gaps, as many residents were unaware of the impending disasters due to the rural nature of the county and damaged road and communication systems. In response, the county established the Larimer County Office of Emergency Management (OEM) and conducted the Unmet Needs and Community Fragility Study to identify and address these gaps. This study highlighted the need for improved planning, communication, and support for private property issues. Consequently, Larimer Connects was formed, a community-led program with 18 hubs throughout the county, enhancing local resilience through better communication and resource distribution. Additionally, the county implemented stricter land use and building regulations, which, along with updated hazard mitigation plans, have significantly reduced future disaster risks and facilitated more effective community planning and preparedness.

### **Resources and Funding Opportunities**

- **New York State Department of Environmental Conservation (NYSDEC):** To support these initiatives, seek funding from the NYSDEC CSC Grant Program. This funding can help cover the costs of educational materials, outreach events, and other campaign-related expenses (*Climate Smart*, n.d.-c).
- **Hudson River Estuary Program (HREP):** Work with the CCECG to apply for two local stewardship grants under the Hudson River Estuary Program (HREP) to fund the CSC program actions: PE 9 Education and Engagement and PE 9 Social Media (*Actions*, 2018; Grants, n.d).
- **Leverage Expertise from CCECG:** Leverage expertise and resources from the CCECG to align the PE 9 action efforts on the town’s community engagement and education efforts with raising awareness of the impacts of flooding for residents and businesses.

By implementing these steps, New Lebanon can foster a well-informed and prepared community that is better equipped to handle flood risks. This proactive approach not only enhances individual and collective resilience but also strengthens the overall safety and well-being of the town’s residents.



POWERS, S. 2024. FLOODED ROAD AFTER STORM NEW LEBANON, NY

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# RECOMMENDATION #2

## II. Shatford Park Creek Erosion Mitigation

Shatford Park Creek is a critical natural resource in New Lebanon that requires targeted erosion mitigation efforts to prevent flooding and erosion to maintain ecological balance. The following steps outline a strategic approach to addressing erosion issues and improving the overall health of the creek and its surrounding areas. This recommendation is designed to start in late 2024 and continue through 2025.

**Objective:** To implement stream restoration projects and improve culvert and drainage system maintenance.

### *Implementation Steps*

- 1. Assess Current Stream Conditions:** Starting in late 2024 or early 2025, conduct a comprehensive assessment of Shatford Park Creek's current conditions, including identifying areas with significant erosion, evaluating the health of the stream channel, and pinpointing specific locations where interventions are most needed.
- 2. Plan Stream Restoration Activities:** Based on the assessment findings, develop a detailed plan for stream restoration activities. These activities may include regrading the stream channel to stabilize it, planting native vegetation along the banks to enhance water absorption and reduce erosion, and installing natural barriers such as logs and stones to slow water flow during rain events in mid-2025.
- 3. Engage Local Environmental Groups:** Collaborate with local environmental organizations and volunteer groups to support restoration efforts. These groups, including the Columbia County Soil & Water Conservation District, can provide valuable resources, expertise, and labor for planting vegetation, conducting maintenance activities, and monitoring the creek's health over time.
- 4. Audit Existing Culverts and Drainage Systems:** Perform an audit of existing culverts and drainage systems connected to Shatford Park Creek with the CCECG in 2026. This audit should identify blockages, assess structural integrity, and determine the capacity of these systems to handle increased water flow during storms. Address any deficiencies identified during the audit to improve overall drainage capacity and prevent overflow and flooding.
- 5. Develop a Regular Maintenance Schedule:** Establish a routine maintenance schedule for Shatford Park Creek and its associated infrastructure. This schedule should include regular inspections, pre-storm checks, and post-storm repairs to ensure the creek remains in optimal condition and continues to function effectively as a natural flood barrier.
- 6. Establish a Quick-Response Team:** Form a quick-response team composed of local volunteers and municipal staff trained to respond promptly to erosion and flooding issues. This team can perform immediate repairs and interventions during and after storm events to minimize damage and prevent further erosion.

### *Case Study 1: Colorado Watershed Coalitions*

In the wake of the devastating 2013 floods, Colorado implemented a watershed recovery strategy that emphasized coalition-building through natural boundaries. The floods, exacerbated by recent wildfires, caused extensive damage across 24 counties, highlighting the need for a coordinated recovery effort (FEMA, 2024a). The Colorado Resiliency and Recovery Office led a stakeholder tour to engage local communities, resulting in the formation of Watershed Coalitions that included local governments, private landowners, and special interest groups.

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### ***Case Study 1: Colorado Watershed Coalitions (Cont.)***

These coalitions developed Watershed Master Plans with goals and prioritized projects for stabilization and rehabilitation. The initiative was supported by state funding, which facilitated the development of these plans and ensured the flexibility needed to attract federal grants and private sector resources. With \$320 million in Community Development Block Grant - Disaster Recovery (CDBG-DR) funds, the Watershed Resilience Pilot Program was established, focusing on projects in Boulder, Larimer, and Weld counties. This program, along with the United States Department of Agriculture's (USDA's) Emergency Watershed Protection (EWP) Program, enabled the completion of 117 flood recovery projects, engaging over 700 private property owners and demonstrating a decreased flood risk to low- and moderate-income populations. Colorado's proactive approach and multi-jurisdictional partnerships have created a model for resilient and sustainable watershed management, preparing the state for future flooding events.

### ***Case Study 2: Efforts to Mitigate: Elkhorn River Showing Positive Results***

In Dodge County, Nebraska, repetitive flooding from the Elkhorn River caused significant damage to over 5,100 acres of crops and structures per event, prompting local residents and the Lower Platte North Natural Resources District (LPN/NRD) to take action (FEMA, 2011). Utilizing FEMA's Hazard Mitigation Grant Program (HMGP) funds, they stabilized over 2,670 feet of riverbank with rip-rap and jetties. Rip-rap, consisting of rock placed along the river's sides, and jetties, constructed of quarry rock extending into the river, both protect against erosion and aid in environmental restoration. Additionally, around 100 local residents contribute to a project-maintenance account through a tax based on property values, ensuring sustainable funding for ongoing maintenance. This collaborative effort with State and Federal support has effectively mitigated flooding risks and fostered environmental benefits, demonstrating a successful model of community-driven hazard mitigation.

### ***Resources and Funding Opportunities***

- Seek funding from the NYSDEC Water Quality Improvement Project program. These funds can support various aspects of the restoration project, including purchasing materials, hiring contractors, and conducting long-term monitoring.

By implementing these erosion mitigation strategies, New Lebanon can protect Shatford Park Creek, reduce the risk of flooding, and enhance the natural beauty and ecological health of the area. This proactive approach ensures the creek remains a valuable asset for the community while protecting against future environmental challenges.



POWERS, S. 2024. SHATFORD PARK CREEK EROSION NEW LEBANON, NY



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# RECOMMENDATION #3

## III. Installation of Emergency Power Generators in Critical Facilities

As the effects of climate change continue to intensify, the risk of natural hazards and disasters in New York State will continue to increase. In 2019, the New York State Climate Leadership and Community Protection Act (Climate Act) set among the most ambitious climate laws in the US to back its goal for a 100% zero-emissions electricity system by 2040 (*Climate Act*, n.d.-a). This included codifying New York's goal to achieve 70% renewable energy by 2030 and 85% reductions in greenhouse gas (GHG) emissions by 2050. With these aggressive goals, New York State has expanded funding opportunities and incentives for towns to implement renewable energy sources, especially through NYSERDA (*History*, n.d.). These funding opportunities and statewide efforts to expand renewable energy in municipalities coincide with the Town of New Lebanon's efforts to update the county's hazard mitigation strategy.

To enhance emergency preparedness and climate resiliency within New Lebanon, the town should diversify its energy portfolio by building emergency power generators, specifically solar power generators, at critical community facilities. Installing these backup energy sources at key facilities ensures uninterrupted services during extreme weather or disasters. Priority of town buildings will help the community continue to get information and services without compromising essential local functions. Solar power generators simultaneously benefit the Town of New Lebanon by cutting carbon emissions, reducing electrical costs for taxpayers, improving energy independence, opening new sources of funding through New York State, and aligning with the CSC's goals and ongoing efforts. It can also provide residents with a safe place to go during emergencies, known as Resilience Hubs, which includes offering safe shelter, practical information, and communication channels for real-time updates, access to necessities such as food, clean water, and medical supplies, and recovery assistance to enhance the community's ability to prepare for, respond to, and recover from natural hazards or weather emergencies.

Resilience Hubs are community facilities that connect residents with essential resources and services to prepare for disruptions ranging from everyday stressors to acute emergencies (Department of Energy and Environment [DOEE], 2023). There are three main types of Resilience Hubs: Everyday, Disruption, and Recovery (Urban, 2022). Everyday hubs address the causes of vulnerability in the community and distribute communication for preparedness effectively, while Disruption Hubs are for immediate response to emergencies, including gathering, assessing impact, collecting information, taking inventory of resources, and creating a response. Recovery Hubs are for rebuilding and reinforcing community ties after an event, which includes communication, access to aid, volunteers, support, and resources to help the community rebuild.

Community facilities in New Lebanon with emergency power generators, especially those powered by renewables, would likely serve as Disruption Hubs. At these key facilities, community members could gather, rest, assemble information, and plan. This would support residents, align the HMP with the CSC's broader progress and goals, and open new funding to accomplish the town's goals for improving community resilience against natural hazards. Therefore, installing emergency power generators in New Lebanon works twofold: it builds community resilience during natural hazards by protecting power sources and providing emergency assistance while helping New York State meet its goals to implement renewable energy in towns across the state.

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The Town of New Lebanon is in the process of installing heat pumps and solar panels in the Town Garage building in October 2024. The project is expected to help access more funding in 2025 for the installation of backup batteries at Town Hall, with the potential for emergency power generators at other key facilities. The following are steps and strategies for New Lebanon to leverage the CSC's ongoing efforts to implement solar power generators as backup energy solutions and enhance its climate resilience.

**Objective:** To ensure uninterrupted services during extreme weather, backup generators, specifically a solar battery system, should be installed at key facilities.

### **Implementation Steps**

1. **Location Assessment and Feasibility Study:** Conduct a feasibility study to identify suitable locations for solar power generators at critical community facilities in mid-2025.
  - a. The local library should be considered a critical facility for installing backup solar power, as it would simultaneously serve as a Resilience Hub. Residents would be able to gather to access emergency resources, information on preparedness, and support services during disasters. Other town buildings, including a potential future community center, could also be considered.
2. **Stakeholder Approval:** Engage with key stakeholders, including town officials and facility managers, to gather input and secure support. This could include open, public sessions for community members to provide input to meet local needs for maximum usage during disasters.
3. **Partner Selection and Funding:** By mid- to late-2025, select a qualified solar developer and financing partner through a competitive bidding process, similar to the approach used by the Town of East Hampton with Solar Liberty and Inclusive Prosperity Capital. Apply for grants from NYSERDA and FEMA and consider collaborating with the New York Power Authority (NYPA) and other relevant agencies.
4. **Design and Permitting:** Work with the selected solar developer to design the solar power systems, including PV panels and battery storage units. Secure necessary permits and approvals from local, state, and federal authorities.
5. **Installation and Commissioning:** Install the PV panels and battery storage systems and verify performance by 2026.
6. **Monitoring and Maintenance:** Establish a system for ongoing monitoring and maintenance of the solar installations.

### **Case Study: Town of East Hampton's Clean Renewable Solar Energy Generation**

In April 2023, the Town of East Hampton, in collaboration with the New York Power Authority (NYPA), successfully became the first municipal solar-plus-storage project on Long Island (*Governor*, 2023). Through a competitive process, the New York-based Solar Liberty, and Inclusive Prosperity Capital, as the financing partner, were selected to develop the solar-plus-battery storage system. The solar photovoltaic (PV) system will be financed through a 20-year Power Purchase Agreement (PPA) with Inclusive Prosperity Capital, ensuring no upfront costs for the town (Solar, 2023). Additionally, the PPA allows the town to benefit from cost offsets provided by tax credits. The project involved installing a 165-panel solar array atop the Parks Department building within the Town Hall campus, marking it as the first building in East Hampton to achieve net-zero carbon emissions for electricity generation. This initiative aligns with New York State's Climate Leadership and Community Protection Act, which aims to achieve 70% renewable energy by 2030 and a zero-emissions electricity system by 2040 (*Climate Act*, n.d.-a).

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**Case Study: Town of East Hampton’s Clean Renewable Solar Energy Generation (Cont.)**

The solar PV system, complemented by a 137-kilowatt-hour battery storage unit, will generate approximately 90 megawatt-hours annually, which is enough to offset the building’s energy cost with surplus credits, possibly benefiting other municipal facilities. The East Hampton Town Supervisor, Peter Van Scoyoc explains, “Not only will this project reduce carbon emissions and make the Town Hall campus more resilient, it is also estimated to save town taxpayers at least \$10,000 a year between bill credits and reduced electrical costs” (Governor, 2023). The implementation of this project also establishes a significant reduction in carbon footprint by offsetting nearly 110,000 pounds of carbon dioxide in its first year, which is equivalent to the emissions from over 125,000 miles driven by an average vehicle. The battery storage benefits hazard mitigation for the Town of East Hampton by capturing and supplying energy during peak demand times, enhancing grid stability and energy efficiency. This project serves as a model for other municipalities in New York, demonstrating the feasibility and multiple benefits of integrating solar and storage solutions into government operations (Solar, 2023). The case exemplifies effective collaboration between municipal leadership, state authorities, and private partners in advancing environmental sustainability and economic efficiency for cumulative benefits (Bechere, 2024). The Town of East Hampton, New York, is a guiding example of the first solar-plus-storage project by a municipality on Long Island for New Lebanon to learn and adapt to its hazard mitigation strategy.



INCLUSIVE PROPERTY CAPITAL. 2024. LONG ISLAND’S FIRST MUNICIPAL SOLAR & STORAGE SYSTEM, EAST HAMPTON, NY (SOLAR, 2023).



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## **Resources and Funding Opportunities**

- **NYSERDA Grants:**
  - **Clean Energy Fund:** This fund is designed to reduce ratepayer collections, drive economic development, and accelerate clean energy and innovation in New York State through 2026, funded by an assessment of retail electricity sales by state utilities and encompassing four portfolios: Market Development, Innovation and Research, NY-Sun, and NY Green Bank (*Clean*, n.d.).
  - **Retail Energy Storage Program:** East Hampton received nearly \$35,000 from NYSERDA's Retail Energy Storage Program (Governor, 2023). This program provides funding for energy storage systems paired with new or existing solar installations.
  - **Commercial and Industrial (C&I) Carbon Challenge:** Supports projects that reduce carbon emissions and improve energy resilience in NY.
- **FEMA Grants:**
  - **Hazard Mitigation Grant Program (HMGP):** This program supports projects that enhance community resilience against natural disasters, including power stability during severe weather events.
  - **Building Resilient Infrastructure and Communities (BRIC):** Provides funds for pre-disaster mitigation projects to reduce risks from natural hazards.
- **New York Power Authority (NYPA):**
  - **Technical Assistance and Funding Support:** NYPA provides support for municipal energy projects, including renewable energy installations and battery storage systems.
- **Inclusive Prosperity Capital (IPC):**
  - **Power Purchase Agreements (PPA)** are a financing option that allows municipalities to install solar power systems with no upfront costs, benefiting from tax credits and cost offsets. East Hampton benefited from a PPA, which should be similarly considered in New Lebanon.
- **New York State Department of Environmental Conservation (NYSDEC):** To support these initiatives, seek funding from the NYSDEC CSC Grant Program that helps municipalities implement climate initiatives, including renewable energy projects (*Climate Smart*, n.d.-c)

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# RECOMMENDATION #4

## IV. Establishment of a New Lebanon Emergency Management Plan

Establishing an Emergency Management Plan (EMP) is crucial for enhancing New Lebanon's local emergency preparedness, coordination, and response capabilities. This plan will serve as the roadmap for all emergency management activities, ensuring a cohesive and efficient approach to disaster readiness and response. The following steps outline the establishment and operationalization of the EMP.

**Objective:** To create an emergency management plan to enhance local emergency preparedness and response capabilities.

### **Implementation Steps**

- 1. Develop a Proposal:** Draft a comprehensive proposal outlining the structure, roles, and responsibilities of the New Lebanon Emergency Management Plan. This proposal should detail the EMP's mission, objectives, and the specific functions it will perform, such as disaster planning, coordination with emergency services, and public education.
- 2. Secure Approval and Funding:** Present the proposal to the Town Board for approval. Highlight the benefits of having an EMP, including improved emergency response, better coordination with state and federal agencies, and enhanced community resilience. Once approved, allocate initial funding and resources necessary to establish the plan, including equipment.
- 3. Establish Coordination Protocols:** Develop and implement protocols for coordination with local, state, and federal emergency agencies. These protocols should outline clear lines of communication, roles, and responsibilities during emergency situations. Establish partnerships with neighboring towns and counties to facilitate mutual aid and support during disasters.
- 4. Develop Community Outreach Programs:** Create and implement community outreach programs to inform residents about emergency procedures, resources, and preparedness measures. This includes organizing public meetings, distributing informational materials, and utilizing social media and other communication channels to keep the community informed. Focus on educating residents about specific risks in New Lebanon, such as flooding, and provide guidance on how to prepare and respond effectively.
- 5. Conduct Regular Drills and Simulations:** Organize regular emergency drills and simulations to test and refine the town's emergency response plans. These exercises should involve local emergency services, community organizations, and residents to ensure everyone is familiar with their roles and responsibilities during a disaster.

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### **Case Study: Hazard Planning Successfully Shapes Growing Communities**

In response to the devastation caused by Hurricanes Andrew, Charley, Ivan, and Wilma, Florida implemented comprehensive hazard planning to protect its residents and shape resilient communities (FEMA, 2021). The state developed an enhanced statewide building code and integrated disaster resistance measures into local community development and planning processes. Key initiatives included statewide workshops and the integration of four planning mechanisms: The Comprehensive Plan, The Local Mitigation Strategy (LMS), The Post-Disaster Redevelopment Plan, and the Comprehensive Emergency Management Plan. These efforts encouraged communities to prioritize hazard mitigation in land-use decisions, reducing vulnerability to future disasters. A pilot project in Palm Beach County exemplified this approach, where local leaders and planners from the Glades communities of Pahokee, Belle Glade, and South Bay collaborated to address flood, wind, and land subsidence risks. By utilizing land-use maps and innovative building techniques, they successfully directed growth to safer areas and incorporated mitigation strategies, demonstrating the effectiveness of proactive hazard planning.

### ***Resources and Funding Opportunities***

- Seek funding from the New York State Department of Homeland Security and Emergency Services to support the establishment and ongoing operations of the EMP. These funds can be used for staffing, training, equipment, and community outreach programs.

By establishing a dedicated Emergency Management Plan, New Lebanon can significantly improve its emergency preparedness and response capabilities. This centralized approach ensures a coordinated and efficient response to disasters, ultimately enhancing the community's safety and resilience.



RAMOS, A. 2024. TREE AND STRUCTURE IN SHATFORD PARK NEW LEBANON, NY

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# RECOMMENDATION #5

## V. Advocate for State-Level Updates to Local Flood Maps

Flood maps are crucial tools for flood risk management and mitigation, as accurate flood maps help communities understand their flood hazards, guide land use planning, and inform emergency response strategies. Columbia County's flood maps, last updated in 1985, present challenges for the Town of New Lebanon in updating its HMP. Outdated maps do not reflect current flood risks, particularly with the increased frequency of extreme weather events from climate change. Without accurate, modern data, it inhibits the ability to identify vulnerable areas, prioritize mitigation efforts, and secure necessary funding for flood protection. While New Lebanon is not responsible for updating the maps, the process of updating the county HMP and enhancing New Lebanon's hazard mitigation strategy revealed the urgent need for state-level updates to local flood maps. The purpose of this recommendation is to highlight to the county and state officials the need for updated flood maps in accordance with FEMA standards for improved flood mitigation strategies. This will help New Lebanon identify vulnerable areas to prioritize mitigation efforts, guide decisions, and enhance the HMP process in the future.

**Objective:** To use the HMP process to urge the county and state to prioritize updating local flood maps in Columbia County in accordance with FEMA standards for improved flood mitigation strategies.

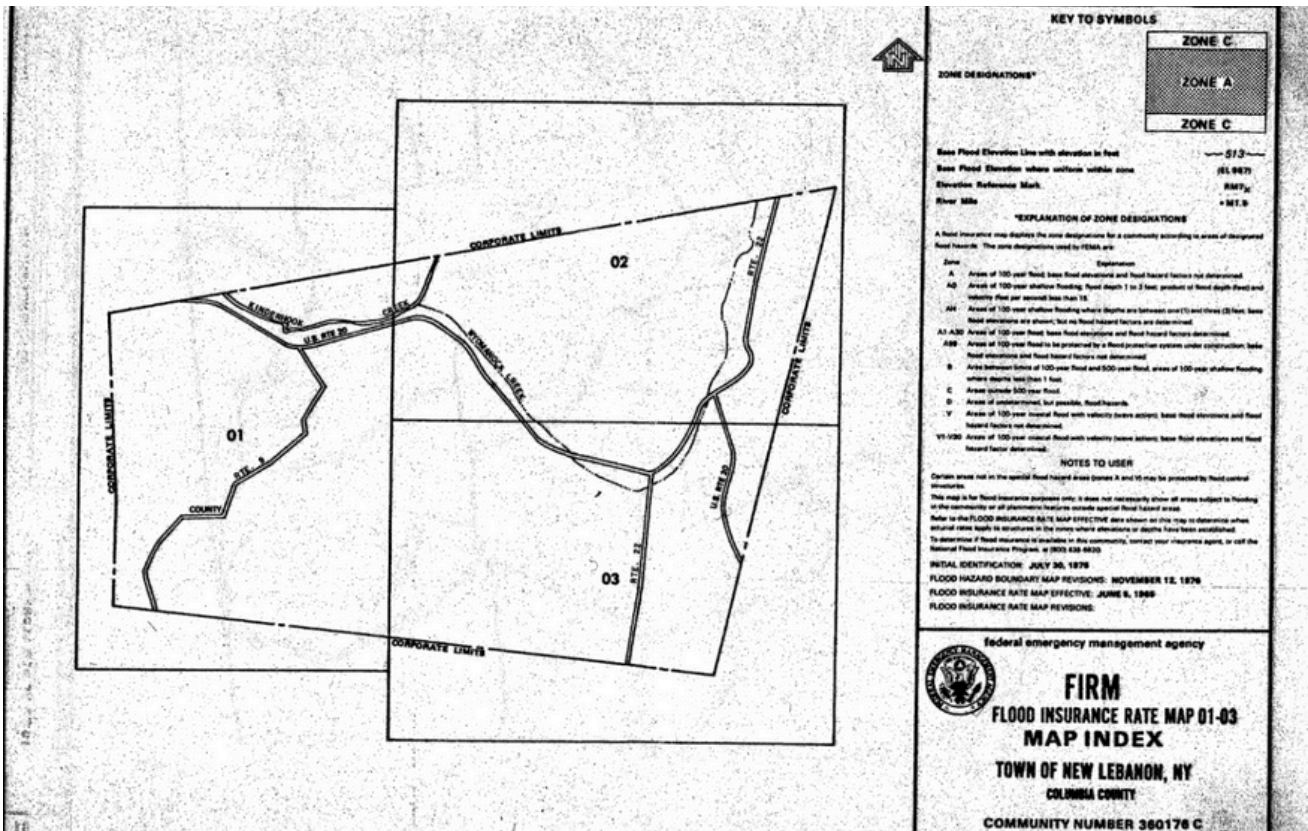
### **Implementation Steps**

- Include Updating Local Flood Maps as a Key Need in County HMP: Ensure that the need for updated flood maps is highlighted in the HMP for Columbia County, highlighting its importance for effective flood risk management.
- Build Support and Awareness: Work with neighboring towns, counties, regional organizations, and community members to raise awareness about the necessity of updated flood maps and build collective support for this initiative.
- Collaborate with Regional Partners: Partner with regional organizations to coordinate meetings with state legislators and agency officials, advocating for the prioritization of updated flood maps in Columbia County.
- Develop a Comprehensive Plan for Advocacy: Consider creating a detailed plan that outlines the need for updated flood maps, the benefits they will bring, and the steps required to achieve this goal, which can be used to support advocacy efforts and funding applications for state-level action.

### **Resources and Funding Opportunities**

- **NYSDEC and FEMA:**
  - Urge NYSDEC and FEMA to use state resources for prioritizing updating the local flood maps in Columbia County.
- **NY State Environmental Protection Fund (EPF):**
  - Consider applying for state environmental grants such as the NY State Environmental Protection Fund (EPF) to help with advocacy efforts. The EPF provides funding for a wide range of environmental projects, including open space conservation, parks, recreation, and historic preservation. These grants can support the development and implementation of flood mitigation strategies, including the update of local flood maps.





FEMA. 1985. CURRENT FEMA FLOOD MAP DATING TO 1985 USED BY TOWN OF NEW LEBANON



ARCCIS. 2021. COLUMBIA COUNTY FLOOD MAP OVERVIEW: FLOOD-PRONE AREAS IN NEW LEBANON AND SURROUNDING REGIONS



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# RECOMMENDATION #6

## VI. Culvert and Dam Assessment & Development of Management Plan

Culvert, dam, and bridge management are critical to successful hazard mitigation in preventing flooding. Near road-stream crossings are particularly vulnerable to intense precipitation that causes debris jams, overflows, scour, or washouts. As a part of the Town of New Lebanon’s efforts to update its hazard mitigation strategy, evaluating its existing culverts and non-private bridges provides valuable information on which culverts or dams need to be overtopped or washed out to prevent flooding and aquatic disruptions. Through a partnership with the CCECG, New Lebanon can evaluate its current road-stream crossings to develop a management plan for better flood mitigation. These efforts align with the CCECG projects to implement the CSC Certification program PE 7 *Culverts and Dams*, which includes a town-wide road-stream crossing (culvert) assessment with a road-stream crossing management plan deliverables. This aligns with the CSC goals and ongoing progress while providing valuable recommendations for flood management in New Lebanon. The following steps are designed to be started in 2025 and completed in 2026.

**Objective:** To assess the current road-stream crossing (RSX) infrastructure in New Lebanon to develop a detailed management plan for better flood mitigation.

**Implementation Steps** (aligned with CCECG’s Scope of Work for PE 7 Culverts and Dams)

1. **Initial Project Meeting:** Starting in early 2025, meet with municipal staff and stakeholders to discuss the project scope, process, and expected outcomes.
2. **Field Assessment:** Conduct field assessments of all non-private bridges and culverts using North Atlantic Aquatic Connectivity Collaborative (NAACC) protocols from mid-2025 to 2026.
3. **Data Entry and Submission:** Enter and review data, then submit it to the NAACC database.
4. **Compile Draft Inventory:** Develop a draft inventory document with detailed information on road ownership and municipal-owned dams.
5. **Identify Priority Structures:** Conduct field visits to assess potential priority structures for flooding hazards and barriers to aquatic organisms.
6. **Prioritization Workshop:** Host a workshop with municipal staff and stakeholders to present data, gather input, and finalize priorities.
7. **Finalize Management Plan:** Incorporate community input, identify priority culverts, provide recommendations, and include supporting documents.
8. **Final Presentation:** Present the completed management plan to the Town Board, request adoption, and ensure it is hosted on the municipal website by the end of 2026.



POWERS, S. 2024. ROAD-STREAM CROSSING NEW LEBANON, NY

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### **Case Study: Wilcox Pond Culvert Upgrade Preventing Roadway Overtopping**

In Biddeford, ME, West Street frequently faced closures due to overtopping and washouts caused by the Wilcox Pond outflow culvert during large rain events (FEMA, 2021b). This posed significant threats to public safety and required a 7-mile detour for emergency vehicles. To address this, the city upgraded the culvert with funds from the Hazard Mitigation Grant Program, resetting its angle for better downstream outflow, installing rip-rap to reduce erosion, and adjusting the roadway slope for improved runoff. Completed in May 1998, the project proved effective during a heavy rain event the following month, preventing damage and keeping the road open, with estimated savings of \$230,000 in avoided damages.

#### ***Resources and Funding Opportunities***

- **New York State Department of Environmental Conservation (NYSDEC):** To support these initiatives, seek funding from the NYSDEC CSC Grant Program. This funding can help cover the eligible costs of climate change mitigation, adaptation, planning, and assessments for counties in the State of New York (New, n.d.).
- **Hudson River Estuary Program (HREP):** Work with the CCECG in applying for two applications under the HREP Local Stewardship Grants to fund the CSC program actions: *PE 7 Culverts and Dams (Grants, n.d.)*.
- **Partner with CCECG:** Leverage expertise and resources from the CCECG to align the PE 7 action efforts on hazard mitigation strategies to prevent risk of flooding and protect vulnerable areas within New Lebanon.



POWERS, S. 2024. CULVERT NEW LEBANON, NY



# RECOMMENDATION #7

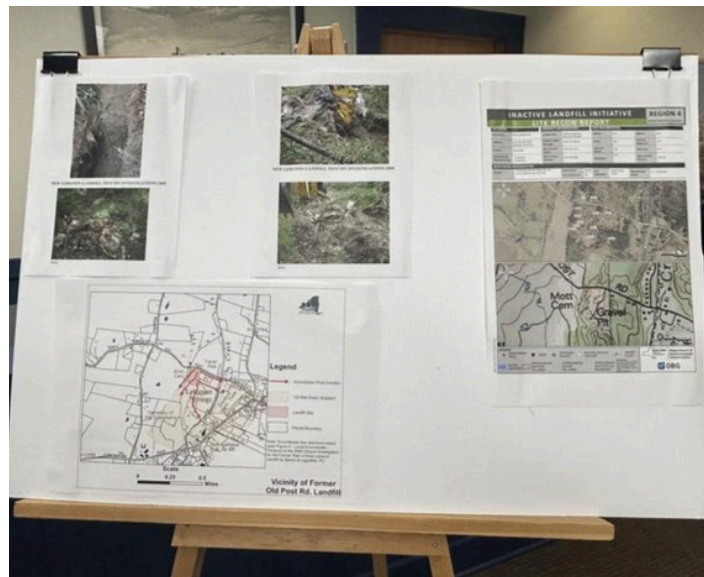
## VII. Finalize Landfill Closure

Through a partnership with Columbia County and the state legislature, another strategic priority in updating the town's hazard mitigation approach should be to finalize the closure of the former landfill on Old Post Road in New Lebanon to prevent the spread of hazardous chemicals in the surrounding water table by the end of 2025. Despite being shut down years ago, the landfill requires final steps in capping the site, as mandated by the NY Department of Environmental Conservation (*Waste*, 2024b). Senator Michelle Hinchey (D-41th) agreed in April 2024 to allocate \$1 million in the Senate's state budget for the landfill's official closure. In addition to this funding, Representative Didi Barrett (D-106th) is working to solidify up to another \$1.5 million from the NY Assembly. Previously, Columbia County contributed \$625,000 towards the closure, but this amount is reserved for incidental costs on an annual basis, leaving the landfill uncapped.

**Objective:** To finalize the closure of the former New Lebanon landfill to prevent the spread of hazardous chemicals in the surrounding water table as mandated by the NY Department of Environmental Conservation.

### Implementation Steps

- 1. Solicit Funding for Capping Landfill (Completed):** Secure necessary funds for the landfill capping project.
- 2. Update Landfill Closure Plan (In Progress):** Revise and enhance the landfill closure plan to ensure compliance with current environmental standards.
- 3. Purchase Land from Private Owner (In Progress):** Acquire the land from the private owner to facilitate the implementation of the closure plan.
- 4. Implement the Closure Plan by Capping the Landfill:** Execute the finalized closure plan, which includes capping the landfill to prevent further contamination by the end of 2025.



THE DAILY GAZETTE. 2024. \$2M STATE BUDGET AWARD FOR LANDFILL CLOSURE. NEW LEBANON TOWN HALL, NY (GREENWALDT-SIMON, 2024).

### Resources and Funding Opportunities

- Legislative Funding Commitments:
  - NY Assembly Commitment: \$1.5 million (up to the designated amount)
  - NY Senate Commitment: \$1 million
- Columbia County Maintenance Plan:
  - Columbia County committed to a 30-year maintenance plan, paying the town \$625,000 in 2013.

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# CONCLUSION

As natural hazards and extreme weather continue to pose increasing risks to the Town of New Lebanon, incorporating a variety of strategies to plan and mitigate these risks is essential. The recommendations presented in this report are not just about responding to the immediate risks posed by natural hazards but about building a more prepared and resilient community for the future, including reducing vulnerabilities for residents and the town's assets. New Lebanon has already demonstrated its commitment to environmental leadership and sustainability through its achievements in the CSC program. By adopting and implementing the strategies outlined in this report, the town can continue to lead by example in Columbia County and across New York State by showing how proactive and comprehensive hazard mitigation can protect communities against the increasing threats posed by climate change.



POWERS, S. 2024. SHAKER MUSEUM NEW LEBANON, NY

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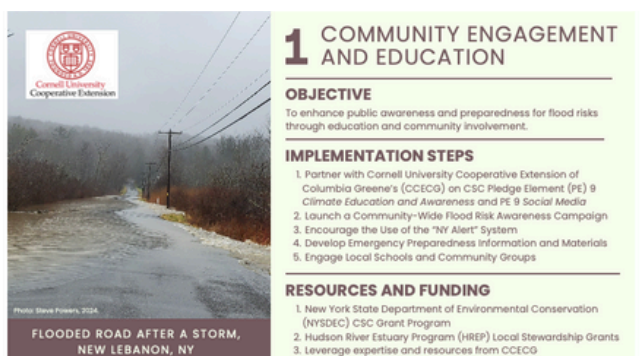
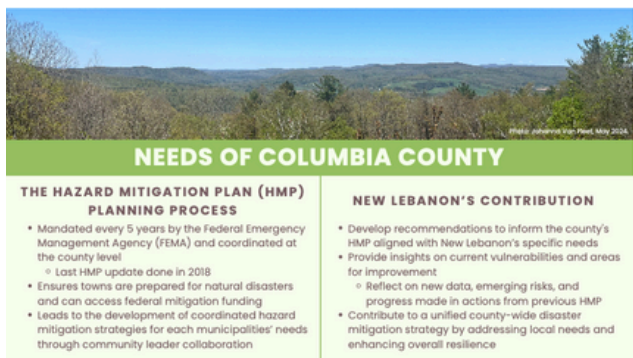
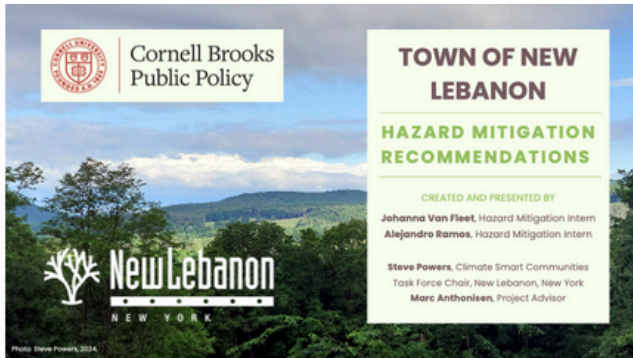
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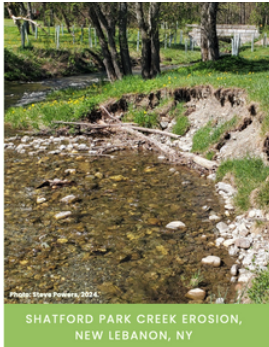
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# APPENDIX





# APPENDIX



## 2 SHATFORD PARK CREEK EROSION MITIGATION

### OBJECTIVE

To implement stream restoration projects and improve culvert and drainage system maintenance.

### IMPLEMENTATION STEPS

1. Assess Current Stream Conditions
2. Plan Stream Restoration Activities
3. Implement Erosion Mitigation Actions
4. Develop a Regular Maintenance Schedule
5. Establish a Quick-Response Team

### RESOURCES AND FUNDING

- New York State Department of Environmental Conservation (NYSDEC) Water Quality Improvement Project program
  - Funding for restoration projects, including purchasing materials, hiring contractors, and long-term monitoring

SHATFORD PARK CREEK EROSION, NEW LEBANON, NY



## 3 INSTALLATION OF EMERGENCY POWER GENERATORS

### OBJECTIVE

To ensure uninterrupted services during extreme weather by installing backup generators at key facilities, specifically a solar battery system.

### IMPLEMENTATION STEPS

1. Location Assessment and Feasibility Study
2. Stakeholder Approval
3. Partner Selection and Funding
4. Design and Permitting
5. Installation and Commissioning
6. Monitoring and Maintenance

### RESOURCES AND FUNDING

- NYSERDA: Clean Energy Communities Program (secured)
  - Retail Energy Storage Program (funded East Hampton project)
- FEMA: Hazard Mitigation Grant Program (HMGP), Building Resilient Infrastructure and Communities (BRIC)
- New York Power Authority (NYPA) partnership opportunity
- NYSDEC CSC Grant Program

LONG ISLAND'S FIRST MUNICIPAL SOLAR + STORAGE SYSTEM, EAST HAMPTON, NY

## 4 ESTABLISHMENT OF A NEW LEBANON EMERGENCY MANAGEMENT PLAN

### OBJECTIVE

To create an emergency management plan to enhance local emergency preparedness and response capabilities.

### IMPLEMENTATION STEPS

1. Develop a Proposal
2. Secure Approval and Funding
3. Train Staff
4. Establish Coordination Protocols
5. Develop Community Outreach Programs
6. Conduct Regular Drills and Simulations

### RESOURCES AND FUNDING

- New York State Department of Homeland Security and Emergency Services to support the establishment and ongoing operations of the New Lebanon emergency management plan
- Leverage Lebanon Valley Protective Association (LVPA) and Town of New Lebanon staff



FALL SCENE AT MEIZINGER LAKE, NEW LEBANON, NY

## 5 ADVOCATING FOR STATE-LEVEL UPDATES TO LOCAL FLOOD MAPS

### OBJECTIVE

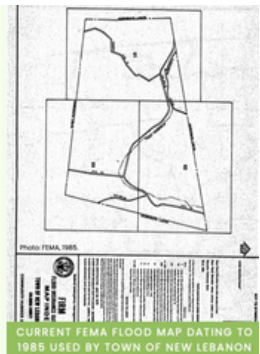
To use the HMP process to urge the county and state to prioritize updating local flood maps in Columbia County in accordance with FEMA standards for improved flood mitigation strategies.

### IMPLEMENTATION STEPS

1. Include updating local flood maps as a key need in county HMP
2. Work with neighboring towns, counties, regional organizations, and community members to build support and awareness
3. Collaborate with regional partners to meet with state legislators and agency officials
4. Consider developing a plan outlining the need for updated flood maps and benefits

### RESOURCES AND FUNDING

- Urge NYSDEC and FEMA to use state resources for prioritizing updating the local flood maps in Columbia County
- Consider applying for state environmental grants such as the NY State Environmental Protection Fund (EPF)



ROAD-STREAM CROSSING, NEW LEBANON, NY

## 6 CULVERT AND DAM ASSESSMENT & MANAGEMENT PLAN

### OBJECTIVE

To assess the current road-stream crossing (RSX) infrastructure in New Lebanon to develop a detailed management plan for better flood mitigation.



CULVERT, NEW LEBANON, NY

### IMPLEMENTATION STEPS

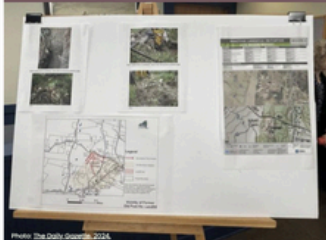
1. Partner with CCECG on CSC PE 7 Culverts and Dams to:
  - a. Perform a Field Assessment, Data Entry and Submission, Draft Inventory, priority structure identification, prioritization workshop, final RSX management plan

### RESOURCES AND FUNDING

1. NYSDEC CSC Grant Program
2. HREP Local Stewardship Grants
3. Leverage Expertise from CCECG

## 7 FINALIZE LANDFILL CLOSURE

\$2M STATE BUDGET AWARD FOR LANDFILL CLOSURE, NEW LEBANON TOWN HALL, NY



### OBJECTIVE

To finalize the closure of the former New Lebanon landfill to prevent the spread of hazardous chemicals in the surrounding water table as mandated by the NY Department of Environmental Conservation.

### IMPLEMENTATION STEPS

1. Solicit funding for capping landfill (completed)
2. Update landfill closure plan (in progress)
3. Purchase land from private owner (in progress)
4. Implement the closure plan by capping the landfill

### RESOURCES AND FUNDING

- Legislative Funding Commitments:
  - House Commitment: \$1.5 million
  - Senate Commitment: \$1 million
- Columbia County committed to a 30-year maintenance plan paying the town \$625,000 in 2013

## ACRONYMS

- CCECG – Cornell University Cooperative Extension of Columbia Greene
- CSC – Climate Smart Communities
- EPF – Environmental Protection Fund
- FEMA – Federal Emergency Management Agency
- GHG – greenhouse gas
- GIS – Geographic Information System
- HMP – Hazard Mitigation Plan
- HREP – Hudson River Estuary Program
- LVPA – Lebanon Valley Protective Association
- NAACC – North Atlantic Aquatic Connectivity Collaborative
- NYPA – New York Power Authority
- NYSDEC – New York State Department of Environmental Conservation
- NYSERDA – New York State Energy Research and Development Authority
- PE – Pledge Elements
- PPA – Power Purchase Agreement
- PV – photovoltaic



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