Granite Street Historic District Flood and Community Resilience Plan

Building a Safer, Stronger, & More Resilient Neighborhood

Created Collaboratively by:
Kristen Leahy, Town of Hardwick
Kate O'Neill, The Center for an Agricultural Economy
Andrea Phelps, Granite Street Neighbors
SLR Consulting
Katt Tolman, The Center for an Agricultural Economy

Funded and supported by a FY2025 Municipal Planning Grant which is administered by the Vermont Department of Housing and Community Development (DHCD)

Contents

Granite Street Historic District Flood and Community Resilience Plan 4

Executive Summary 4

Vision Statement 5

1. Introduction 6

Purpose of the Plan 6

Why the Granite Street Historic District Was Selected 6

Relationship to Hardwick's Broader Recovery and Resilience Efforts 6

Municipal Planning Grant Overview 7

Planning Process and Community Engagement 7

2. Survey Findings: Understanding Neighborhood Resilience 8

Survey Participation 8

A Neighborhood with Deep Roots 8

Flooding is a Shared Experience 8

Residents Want Practical Mitigation 9

Emergency Preparedness Can Be Strengthened 9

Communication Matters 9

Special Considerations 10

What Residents Value Most 10

Voices from the Neighborhood 10

Survey Findings Summary 11

3. The Granite Street Historic District Neighborhood 12

Neighborhood History and Development 12

Granite Industry Legacy 13

Community Characteristics 13

Housing and Population 13

Existing Strengths 14

Community Assets 14

What Residents Value About Living Here 15

4. Flood Risks and Challenges 16

Flood History and Recent Flood Events 16

Cooper Brook Flooding 17

Lamoille River Flooding 17
Stormwater and Drainage Concerns 17
Utility Vulnerabilities 19
Impacts on Homes and Residents 19
Future Climate Considerations 20
What We Learned from Technical Analysis 20
5. Community Assets, Preparedness, and Capacity 24
Neighborhood Connections 24
Community Facilities 25
Emergency Preparedness 26
Local Knowledge and Leadership 27
Building on Existing Strengths 28
6. Community Vision 29
What We Heard 29
Vision Statement 31
7. Resilience Strategy 32
Goal 1: Prepare 32
Goal 2: Protect 33
Goal 3: Recover and Adapt 34
8. Priority Action Plan 35
Immediate Actions (0–2 Years) 36
Near-Term Actions (2–5 Years) 37
Long-Term Actions (5+ Years) 37
Implementation Table 38
9. Measuring Progress and Next Steps 41
Tracking Progress 41
Roles and Responsibilities 41
Annual Review Process 41
Potential Indicators 42
Survey Participation 45
About the Neighborhood 45
Flood Experience 45

Flood Impacts 46
Financial Recovery 46
Home Mitigation Priorities 47
Emergency Preparedness 47
Special Considerations 48
Communication 49
Community Education Priorities 49
What Residents Told Us 49
Survey Findings Summary 50
Appendix B – Community Engagement Summary 51
Appendix C - Technical Analysis, Hydraulic Modeling, and Flood Mitigation Alternatives 56
Appendix D – Priority Project Profiles 61
Appendix E – Flood Mitigation Alternatives Evaluated 78
Route 15/Wolcott Street Bridge 79
Hardwick Fire Station 80
Atkins Field Floodplain 81
Appendix F – Funding Opportunities and Implementation Matrix 82
Appendix G – Municipal Planning Grant Deliverables Crosswalk 88
Appendix H – Neighborhood Flood Response and Recovery 91
Municipal Staff Guidance 91

Granite Street Historic District Flood and Community Resilience Plan

Executive Summary

The Granite Street Historic District Flood and Community Resilience Plan was developed to help residents, local officials, and community partners reduce flood risk while preserving one of Hardwick's neighborhoods. Repeated flooding in 2023 and 2024 demonstrated that traditional recovery efforts alone are not enough to address the increasing frequency and severity of flood events. This plan provides a community-driven framework for improving preparedness, protecting homes and infrastructure, supporting recovery, and guiding future resilience investments.

The Granite Street Historic District is located between Cooper Brook and the Lamoille River and includes approximately 51 residences, several businesses along Wolcott Street, and Atkins Field, an important community gathering space. The district's historic homes, walkable character, and strong social connections are among its greatest strengths. At the same time, its location within the floodplain makes it vulnerable to flooding from multiple sources, including Cooper Brook, backwater from the Lamoille River, localized stormwater issues, groundwater, and aging drainage infrastructure.

This planning effort combined technical analysis with extensive community engagement to better understand neighborhood needs and identify practical solutions. Thirty households, representing approximately 59 percent of the district's 51 residences, participated in a detailed survey, while additional residents contributed through community meetings, workshops, neighborhood conversations, and Steering Committee discussions. Residents consistently expressed a strong desire to remain in the district while pursuing practical actions that reduce flood risk and improve preparedness.

The planning process confirmed that no single project will eliminate flood risk within the Granite Street Historic District. Instead, resilience will be achieved through a layered approach that combines property-level mitigation, neighborhood infrastructure improvements, emergency preparedness, and larger watershed-scale flood mitigation projects. Residents identified protecting homes and utilities, improving communication, expanding emergency preparedness, strengthening neighborhood connections, and maintaining reliable electrical service as among their highest priorities.

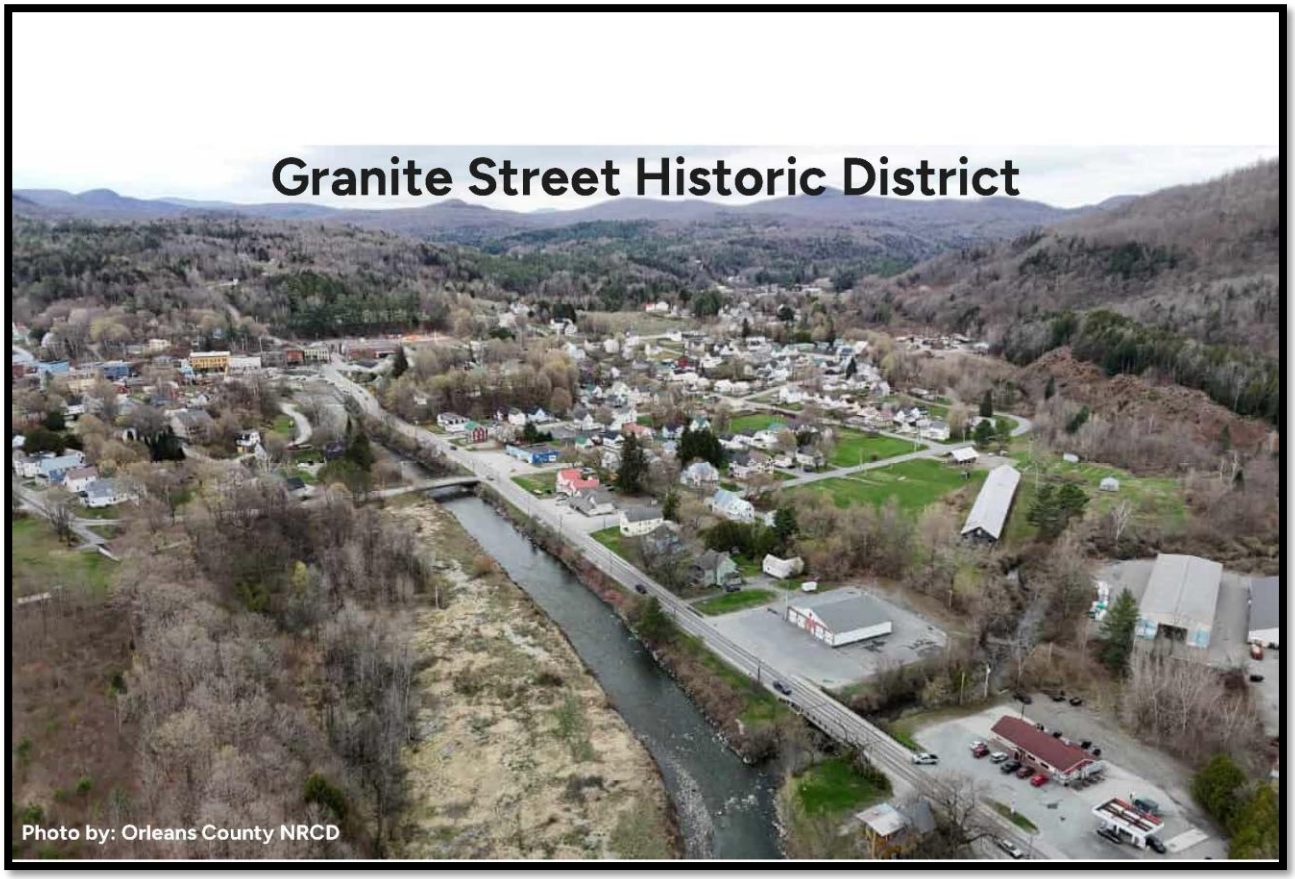
The plan identifies three overarching resilience goals: preparing for future disasters through improved communication and preparedness; protecting homes, utilities, and infrastructure through targeted mitigation projects; and strengthening recovery systems while supporting long-term adaptation. Several resilience initiatives have already been implemented or are actively advancing, including a residential utility elevation program, trained emergency communications volunteers at the town level, an operational Supply and Support Center, a portable neighborhood warning siren, preparedness education, and continued community engagement through the neighborhood.

Priority capital projects identified through the planning process include the Spring Street Extension floodplain restoration concept, Granite Street culvert improvements and flood benching, neighborhood stormwater improvements, and continued support for Lamoille River watershed projects, including Jackson Dam, LVRT embankment modifications, Sawmill Park floodplain restoration, and confluence restoration. Together, these projects provide multiple layers of flood risk reduction by addressing both neighborhood conditions and the broader watershed that influences flooding throughout Hardwick.

This plan is intended to serve as a practical implementation guide rather than a static planning document. It establishes a framework for prioritizing projects, pursuing funding opportunities, coordinating partners, and measuring progress over time. By combining technical expertise with local knowledge and community leadership, the Granite Street Historic District Flood and Community Resilience Plan provides a roadmap for building a safer, stronger, and more resilient neighborhood while preserving the qualities that make the district an important part of Hardwick.

Vision Statement

The Granite Street Historic District is a connected, informed, and resilient community that works together to reduce flood impacts, support neighbors during emergencies, protect homes and infrastructure, maintain critical services, and strengthen long-term quality of life.



1. Introduction

Purpose of the Plan

The Granite Street Historic District Flood and Community Resilience Plan was developed to help the Town of Hardwick, neighborhood residents, and community partners better prepare for, respond to, recover from, and adapt to future flooding. Rather than focusing on a single project or hazard, the plan provides a comprehensive framework for reducing flood risk through a combination of property-level mitigation, neighborhood infrastructure improvements, emergency preparedness, and watershed-scale flood resilience initiatives.

The plan is intended to serve as a practical implementation guide that identifies priorities, supports funding opportunities, and coordinates future investments while preserving the historic character, community connections, and quality of life that define the Granite Street Historic District. It also complements the Town of Hardwick's Local Hazard Mitigation Plan (LHMP) and The Hardwick Plan (Local Emergency Management Plan). As projects advance and neighborhood priorities evolve, relevant actions identified through this planning process can be incorporated into future updates of those plans, helping to maintain continuity between neighborhood resilience planning, long-term hazard mitigation, emergency preparedness, and future funding opportunities

Why the Granite Street Historic District Was Selected

The Granite Street Historic District has experienced repeated flooding from Cooper Brook, the Lamoille River, groundwater, and localized drainage issues. Flood events in 2023 and 2024 caused significant impacts to homes, transportation, utilities, and daily life, highlighting both the neighborhood's vulnerability and its importance to the broader community.

The district was selected because of its combination of historic resources, residential neighborhoods, proximity to critical commercial areas, and repeated flood impacts. In addition to the challenges posed by flooding, the neighborhood demonstrated exceptional resident engagement and a strong commitment to identifying practical, community-supported solutions that reduce future risk while allowing residents to remain in their homes.

Relationship to Hardwick's Broader Recovery and Resilience Efforts

The Granite Street Historic District is one component of Hardwick's broader strategy to increase community resilience following repeated flood disasters. The recommendations contained in this plan complement numerous ongoing municipal initiatives, including floodplain restoration, emergency management improvements, utility protection, housing recovery, infrastructure investments, and watershed-scale flood mitigation projects throughout the Lamoille River watershed.

Recognizing that neighborhood resilience depends upon both local actions and regional solutions, this plan emphasizes coordination with larger projects such as the Jackson Dam feasibility study, LVRT embankment modifications, floodplain restoration initiatives, and other investments intended to reduce flood risk throughout the watershed.

Municipal Planning Grant Overview

Development of this plan was supported through a Vermont Municipal Planning Grant (MPG). The project combined technical engineering analysis with extensive community engagement to identify practical, implementation-ready strategies for reducing flood risk within the Granite Street Historic District.

The planning process evaluated existing flood hazards, neighborhood vulnerabilities, community assets, and resident priorities while identifying capital projects and resilience strategies that can guide future engineering, funding, and implementation efforts.

Planning Process and Community Engagement

The planning process combined technical expertise with local knowledge to ensure that recommendations reflected both engineering analysis and community priorities.

Technical work included flood modeling, evaluation of neighborhood drainage and flood hazards, and identification of potential mitigation projects. Community engagement included a neighborhood survey, public meetings, workshops, Steering Committee discussions, community conversations, and ongoing collaboration with residents throughout the planning process.

Thirty households, representing approximately 59 percent of the district's residences, participated in the neighborhood survey, providing valuable insight into flood experiences, preparedness, community strengths, and future priorities. Additional input gathered throughout the planning process helped shape the recommendations contained in this plan.

Together, technical analysis and community engagement created a neighborhood resilience strategy that reflects both the physical challenges facing the Granite Street Historic District and the strengths of the people who call it home.

Select Board Acceptance

On October 15, 2026, the Hardwick Select Board voted to accept the Granite Street Historic District Flood and Community Resilience Plan as a community-developed municipal planning and reference document. The plan identifies community priorities and potential actions for further consideration. Acceptance does not constitute approval of individual construction projects or a commitment of municipal funding. Those decisions remain subject to separate review and authorization.

2. Survey Findings: Understanding Neighborhood Resilience

Resident engagement was the foundation of the Granite Street Historic District Flood and Community Resilience Plan. While engineering analyses identified how flooding occurs and evaluated potential mitigation projects, the resident survey provided critical insight into how flooding affects daily life, household preparedness, and neighborhood priorities.

The survey was designed to better understand residents' experiences with flooding, identify existing community strengths, and guide recommendations that reflect the needs and values of those who live in the neighborhood. The findings presented in this section are reinforced by input gathered through community meals, public meetings, workshops, Steering Committee discussions, and neighborhood conversations conducted throughout the planning process.

Survey Participation

Thirty households, representing approximately 59 percent of the 51 residences within the Granite Street Historic District, participated in the neighborhood survey. Additional residents contributed through community meals, neighborhood meetings, workshops, public events, and ongoing conversations with members of the Steering Committee.

Together, these engagement efforts provided broad community input that shaped the recommendations throughout this plan.

A Neighborhood with Deep Roots

The survey found that the Granite Street Historic District is a stable neighborhood with long-term residents who have strong connections to their homes and community. Nearly three quarters of respondents have lived in the neighborhood for more than six years, and more than half have lived there for over a decade.

Residents consistently expressed a desire to remain in the neighborhood while reducing flood risk and protecting the homes and relationships they have built over many years.

Flooding is a Shared Experience

Flooding is a defining experience for many neighborhood residents. Nearly nine out of ten survey respondents reported experiencing flooding, with many describing multiple flood events over several decades.

Residents identified flooding from Cooper Brook, the Lamoille River, groundwater, stormwater, and neighborhood drainage problems, reinforcing that flood risk results from multiple interacting conditions rather than a single source.

Residents Want Practical Mitigation

Residents expressed strong support for practical, achievable actions that help protect existing homes rather than relocation.

The highest priorities identified through the survey included:

- Learning about grant and funding opportunities
- Home flood risk assessments
- Backup generators
- Utility elevation
- Backflow prevention
- Basement improvements

These findings support the plan's emphasis on property-level mitigation, infrastructure improvements, and continued assistance for homeowners seeking to reduce future flood damage.

Emergency Preparedness Can Be Strengthened

The survey revealed a neighborhood with strong social connections and a willingness to help one another during emergencies.

Most respondents indicated they would assist neighbors during a flood, and the majority reported knowing where they would go during an emergency. However, relatively few households reported having a formal emergency preparedness plan.

These findings suggest that while community capacity is already strong, additional preparedness education and neighborhood planning can further improve resilience.

Communication Matters

Residents rely on multiple sources of information before and during flood events, including TextMyGov, VT Alert, Town emails and text messages, social media, television, and communication with neighbors.

The survey also identified opportunities to increase enrollment in emergency notification systems and continue improving communication before, during, and after emergencies.

Special Considerations

Survey responses identified households with mobility limitations, electricity-dependent medical equipment or refrigerated medications, and pets requiring evacuation planning.

These findings reinforce the importance of reliable emergency communications, neighborhood wellness checks, maintaining electrical service whenever possible, and ensuring emergency response planning reflects the diverse needs of residents.

What Residents Value Most

While flood mitigation was a central topic throughout the survey, residents also emphasized the qualities that make the Granite Street Historic District a desirable place to live.

Recurring themes included:

- Remaining in the neighborhood
- Better communication before and during flood events
- Practical education and preparedness
- Financial assistance for home improvements
- Strong neighborhood relationships
- Continued municipal investment in flood mitigation
- Preserving community connections while reducing flood risk

These priorities provided the foundation for the resilience goals and implementation strategies presented in this plan.

Voices from the Neighborhood

The survey also captured the perspectives of residents in their own words. Several comments reflect the values and priorities that emerged throughout the planning process.

"Building and strengthening community ties before the next (inevitable) flood is wise and forward thinking."

"The Town has taken a couple of suggestions and implemented them. They have been very responsive."

"Don't want to flood, don't want to lose home."

"Thank you. Thank you. Thank you."

These comments illustrate that residents are not simply seeking protection from future floods - they are committed to preserving the neighborhood, strengthening community relationships, and working together to build long-term resilience.

Survey Findings Summary

Theme	Key Finding
Participation	30 households participated (approximately 59% of all residences)
Neighborhood Stability	Nearly 80% of respondents have lived in the neighborhood for more than six years.
Flood Experience	Nearly 90% of respondents have experienced flooding.
Home Protection	Residents identified grants, home assessments, utility elevation, generators, and property-level mitigation as top priorities.
Emergency Preparedness	Strong willingness to help neighbors, with opportunities to strengthen household preparedness planning.
Communication	Residents support expanding emergency notifications and improving communication before and during flood events.
Community Strength	Residents expressed a strong desire to remain in the Granite Street Historic District while reducing future flood risk through practical, community-supported solutions.

3. The Granite Street Historic District Neighborhood

The Granite Street Historic District is one of Hardwick's older residential neighborhoods and reflects the community's industrial heritage, architectural character, and enduring sense of place. Located between Cooper Brook and the Lamoille River, the district developed during the late nineteenth and early twentieth centuries as Hardwick grew into a regional center for the granite industry. Today, the neighborhood remains an important part of the community, combining historic homes, local businesses, public spaces, and strong neighborhood connections.



Neighborhood History and Development

Development of the Granite Street Historic District closely followed the expansion of Hardwick's granite industry. Workers and their families settled in the area because of its proximity to local quarries, manufacturing facilities, and the village center. Many of the homes that define the

neighborhood today were constructed during this period and continue to contribute to the district's historic character.

Over time, the neighborhood has evolved while maintaining its predominantly residential nature. Its compact development pattern, walkable streets, mature trees, and proximity to community services continue to make it a desirable place to live.



Granite Industry Legacy

The neighborhood's history is closely tied to Hardwick's reputation as one of Vermont's historic granite communities. The homes, streetscapes, and overall layout of the district reflect this legacy and contribute to the community's identity. Today, the Granite Street Historic District serves not only as a reminder of Hardwick's industrial past but also as an active residential neighborhood that continues to adapt to changing community needs.

Community Characteristics

The Granite Street Historic District consists primarily of owner-occupied and rental single-family homes with several multifamily residences interspersed throughout the neighborhood. The district is bordered by Cooper Brook to the east, the Lamoille River and Wolcott Street to the north, and South Main Street to the west, and extends south toward Atkins Field and adjacent residential areas.

In addition to its residential character, the neighborhood benefits from its proximity to the Wolcott Street commercial corridor, local parks, schools, community facilities, and the village center. Residents can access many daily services on foot, contributing to the neighborhood's strong sense of community and connectivity.

Housing and Population

The district contains approximately 51 residential properties representing a diverse mix of household sizes, ages, incomes, and housing types. Many homes were constructed before modern floodplain management practices and current building standards, making them particularly susceptible to flooding and utility damage.

Despite repeated flood events, survey responses demonstrate that residents remain strongly committed to the neighborhood. Most respondents have lived in the district for many years and expressed a clear desire to remain in their homes while pursuing practical measures that reduce flood risk and improve resilience.

Existing Strengths

Throughout the planning process, residents consistently emphasized that the neighborhood's greatest strength is its people. Neighbors know one another, share information, aid during emergencies, and actively participate in community events and improvement efforts.

Additional neighborhood strengths include:

- Strong neighborhood identity
- Historic character
- Walkability
- Access to community services
- Active resident engagement
- Local leadership
- A culture of volunteerism and mutual assistance

These strengths provide an important foundation for future resilience efforts.

Community Assets

The Granite Street Historic District benefits from numerous public facilities, community organizations, and gathering places that contribute to neighborhood resilience.

Key assets include:

- Jeudevine Memorial Library
- Buffalo Mountain Forest
- Memorial Building
- Police and Senior Center
- Hazen Union School
- Center for an Agricultural Economy
- Atkins Field, including the farmers market pavilion and community gathering space
- Wolcott Street businesses
- Granite Street Neighbors

Together, these assets support daily life while also serving important roles during emergencies, recovery efforts, community outreach, and neighborhood events.

What Residents Value About Living Here

Resident engagement revealed that people value the Granite Street Historic District for much more than its historic buildings or convenient location. Survey responses consistently highlighted the importance of neighborhood relationships, walkability, access to community resources, and the shared commitment to helping one another during difficult times.



Many residents described the district as a place where neighbors know one another, families have lived for generations, and community members work together to solve problems. While reducing flood risk is a primary goal of this plan, residents also emphasized the importance of preserving the neighborhood's historic character, sense of belonging, and quality of life.

These qualities represent the foundation upon which future resilience efforts will build. The recommendations presented in this plan are intended not only to reduce flood impacts but also to strengthen the characteristics that make the Granite Street Historic District a vibrant and valued part of the Town of Hardwick.

4. Flood Risks and Challenges



The Granite Street Historic District has experienced repeated flooding for generations. While flooding is not new to the neighborhood, the floods of 2023 and 2024 demonstrated the complexity of the district's flood risk. Its location between Cooper Brook and the Lamoille River exposes residents to multiple sources of flooding that can occur simultaneously, increasing both the extent of damage and the difficulty of emergency response and recovery.



Flood risk is not the same throughout Hardwick. In some locations, high-velocity flows and riverbank erosion can make protecting structures in place difficult or infeasible over the long term. Within much of the Granite Street Historic District, recent damages have also resulted from inundation, backwater, groundwater, and drainage problems. These conditions create opportunities for property-level mitigation, utility protection, drainage improvements, floodplain restoration, and other measures that can reduce future damage while supporting residents who want to remain in the neighborhood. Individual properties may face different levels and types of risk and should continue to be evaluated accordingly.

No single project can eliminate flood risk within the district. Long-term resilience will require coordinated actions at the property, neighborhood, and watershed scales.

Flood History and Recent Flood Events

Flooding has long shaped the history of the Granite Street Historic District, but the floods of July 2023 and July 2024 underscored the neighborhood's vulnerability. Homes, businesses, roads, and utilities were damaged as floodwaters entered buildings, transportation routes became impassable, and residents were temporarily isolated from essential services.



These recent disasters reinforced the need to move beyond recovery toward long-term resilience by identifying practical measures that reduce future flood impacts while preserving the neighborhood's historic character and quality of life.

Cooper Brook Flooding

Cooper Brook is one of the primary sources of flooding within the Granite Street Historic District. During intense rainfall, the brook rises rapidly, overtops its banks, and inundates nearby streets and properties. Because Cooper Brook responds quickly to localized storm events, flooding can occur with little warning, making timely communication and emergency preparedness especially important.



Recent hydraulic modeling has improved understanding of how floodwaters move through the neighborhood and has identified opportunities to reduce localized flooding through targeted infrastructure improvements and floodplain restoration.

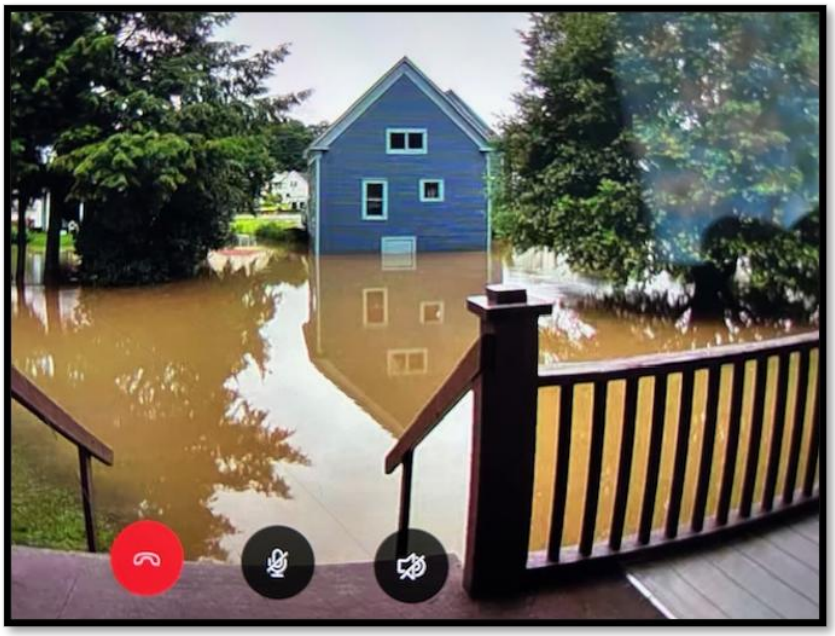
Lamoille River Flooding

Flooding from the Lamoille River presents a different but equally significant challenge. During major flood events, elevated river levels create backwater conditions that reduce the ability of Cooper Brook and local drainage systems to discharge effectively. As a result, water remains within the neighborhood for longer periods and contributes to more extensive flooding.

Flood risk within the Granite Street Historic District is therefore influenced not only by conditions within the neighborhood but also by processes occurring throughout the broader Lamoille River watershed.

Stormwater and Drainage Concerns

In addition to river flooding, residents identified localized drainage problems and stormwater management as recurring concerns. Heavy rainfall can overwhelm existing drainage infrastructure, resulting in ponding, basement flooding, and localized street flooding even during events that do not produce significant river flooding.

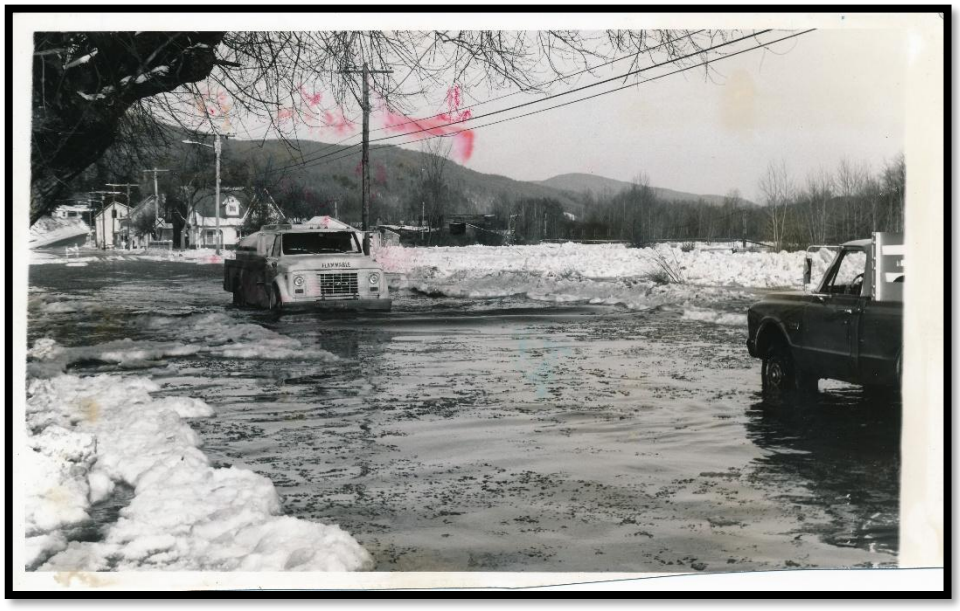


Addressing these localized issues can reduce property damage, improve access, and complement larger watershed-scale flood mitigation efforts.

Existing stormwater infrastructure requires ongoing maintenance to function as intended. The bioretention area located at the intersection of Cottage Street and Lower Cherry Street, identified in the Town's 2018 Stormwater Master Plan, presents an opportunity for near-term improvements through restoration and routine maintenance. The planning process also identified the need for a comprehensive neighborhood stormwater assessment to guide future investments and inform updates to the Town's Stormwater Master Plan.

Natural features also contribute to the neighborhood's flood resilience. Cooper Brook, the Lamoille River floodplain, wetlands, and nearby open spaces can provide important flood storage and conveyance functions. Protecting and restoring these natural functions should be considered alongside improvements to roads, culverts, drainage systems, and individual properties as future projects are developed.

Transportation and Access Challenges



Flooding affects more than homes and businesses - it also disrupts transportation and emergency access. During major flood events, portions of the neighborhood may become isolated as roads are overtopped or closed, limiting access for emergency responders and making it difficult for residents to reach essential services.

Maintaining safe transportation routes and improving emergency communications are important components of the neighborhood's resilience strategy.



Utility Vulnerabilities

Many homes within the Granite Street Historic District contain furnaces, water heaters, electrical panels, and other critical utilities located in basements or other flood-prone areas. Flood damage to these systems often results in extended displacement, costly repairs, and delayed recovery even after floodwaters recede.



Reliable electrical service is also a significant concern. Many households rely on electrically powered sump pumps to reduce basement flooding, making prolonged power outages a secondary hazard during flood events. Protecting utilities and improving electrical resilience are therefore among the highest priorities identified by residents.

Impacts on Homes and Residents



Flooding affects every aspect of neighborhood life. In addition to physical damage to homes and infrastructure, flood events disrupt employment, transportation, schools, businesses, healthcare access, and daily routines. Recovery often extends well beyond the initial disaster as residents navigate repairs, insurance claims, financial challenges, and emotional stress.

Survey responses demonstrated that residents remain deeply committed to the neighborhood despite these repeated challenges. Residents consistently expressed a desire to remain in their homes and support for practical actions that reduce flood risk while preserving the neighborhood's historic character and strong community connections.

Future Climate Considerations

Climate projections indicate that Vermont is likely to experience more frequent heavy precipitation events and greater variability in weather patterns, increasing the potential for future flooding. These changing conditions reinforce the need to move beyond disaster recovery toward proactive resilience planning.

The recommendations contained in this plan recognize that future resilience will require both neighborhood-scale investments and broader watershed initiatives. By combining property-level mitigation, infrastructure improvements, emergency preparedness, and floodplain restoration, the Granite Street Historic District can reduce future flood impacts while strengthening its ability to prepare for, respond to, recover from, and adapt to changing conditions.

What We Learned from Technical Analysis

The Granite Street Historic District Flood and Community Resilience Plan brought together residents' experiences, historical flood information, and hydraulic modeling to better understand flooding within the neighborhood and evaluate potential mitigation opportunities.

SLR's technical analysis examined flood conditions along Cooper Brook and the Lamoille River, including hydraulic constraints, opportunities for floodplain restoration, and potential changes in water-surface elevations under different flood scenarios. The work provided a foundation for identifying projects that could reduce flood impacts while recognizing the limitations of individual interventions.

Understanding Multiple Sources of Flooding

The technical analysis reinforced what residents have experienced during repeated flood events: flooding within the Granite Street Historic District is influenced by several interconnected conditions.

Cooper Brook responds rapidly to heavy rainfall, while elevated water levels in the Lamoille River can create backwater conditions near the confluence. Stormwater runoff, local drainage limitations, and groundwater entering basements create additional challenges that may occur independently of major river flooding.

These conditions help explain why flood impacts vary between properties and why improvements to one part of the drainage or river system may not address every source of damage.

The Importance of Upstream and Downstream Conditions

Although the plan focuses on the Granite Street Historic District, the hydraulic analysis demonstrates the importance of conditions beyond the neighborhood's boundaries.

Upstream floodplain areas influence how floodwater moves along Cooper Brook, while downstream river levels and infrastructure can affect water-surface elevations and conveyance.

One finding concerns the Route 15/Wolcott Street bridge. SLR identified the bridge opening as a potential hydraulic constraint and evaluated opportunities involving the bridge opening and southern approach. This finding illustrates why transportation infrastructure, and floodplain conditions must be considered together when evaluating future flood mitigation projects.

The analysis also examined potential restoration areas upstream of the neighborhood, including Spring Street Extension, Atkins Field, and the former Davis Sawmill property.

These findings demonstrate that improvements outside the historic district may contribute to neighborhood resilience and should remain part of broader municipal and watershed planning.

Floodplain Restoration and Modeled Benefits

SLR evaluated several opportunities to restore floodplain function by modifying existing ground elevations or removing constraints that limit the movement and temporary storage of floodwater.

At Spring Street Extension, the technical analysis identified approximately 4.1 acres of potential floodplain restoration within a narrow section of the Cooper Brook valley upstream of Atkins Field. The conceptual alternative considered excavation of up to approximately four feet to improve floodplain connectivity.

The hydraulic modeling illustrated potential reductions in water-surface elevations along portions of Cooper Brook under the proposed conditions. The magnitude and location of these reductions varied depending on the flood scenario and the alternative evaluated.

These findings suggest that floodplain restoration could provide measurable hydraulic benefits. However, the concepts remain preliminary, and additional engineering, environmental review, landowner coordination, permitting, and funding would be necessary before construction could be considered.

Evaluating Alternatives and Identifying Priorities

The technical analysis examined more potential interventions than the two neighborhood-scale projects identified for continued development in this plan.

In addition to Spring Street Extension, SLR evaluated opportunities involving Atkins Field, the former Davis Sawmill property, the Fire Station property, and the Route 15/Wolcott Street bridge. The analysis also considered combinations of potential floodplain improvements.

The combined-alternative modeling identified potential reductions in water-surface elevations at multiple locations along Cooper Brook. These results illustrate the potential value of coordinating improvements across several locations rather than evaluating each project in isolation. The benefits of individual and combined alternatives depend on the specific flood scenarios, locations, and design assumptions.

Following the evaluation of potential mitigation alternatives, the Town asked SLR to identify which projects they would recommend advancing based on anticipated flood-risk reduction benefits relative to potential implementation costs. This provided an opportunity to consider not only the hydraulic benefits of individual alternatives, but also the practical value of pursuing additional engineering and investment.

Based on that assessment, the Granite Street culvert improvements and flood benching concept and the Spring Street Extension Floodplain Restoration concept were identified as the two priorities for further development. These recommendations reflect preliminary engineering judgment about the relative benefits and costs of the alternatives evaluated, rather than a formal benefit-cost analysis or determination of final project feasibility.

Other alternatives remain part of the technical record and may warrant reconsideration as engineering, property conditions, municipal priorities, and funding opportunities evolve. Their inclusion in the SLR materials does not constitute approval or commitment to construction.

From Technical Findings to Community Action

The technical analysis provided an important complement to the knowledge residents brought to the planning process.

Residents documented where water enters buildings, which roads become impassable, how flood conditions change during storms, and what challenges continue after floodwaters recede. Hydraulic modeling allowed potential changes to be evaluated under defined flood scenarios and assumptions.

Together, these sources of information helped connect neighborhood concerns with practical opportunities for mitigation and preparedness.

The findings also reinforce the importance of a layered resilience strategy. Even successful infrastructure improvements and floodplain restoration projects will not eliminate every source of flooding. Property-level mitigation, utility protection, emergency communication, safe access, and recovery planning remain essential to supporting residents who wish to remain in the historic district.

The technical materials prepared by SLR are included in Appendix C. They document the alternatives evaluated during the planning process and provide a foundation for additional engineering, future funding applications, and municipal decision-making. The materials represent preliminary technical analysis and should not be interpreted as final engineering designs or construction authorizations.

By combining residents' experiences, technical analysis, and municipal implementation planning, the Granite Street Historic District has established a framework for making informed investments while preserving the neighborhood's historic character and community connections.

5. Community Assets, Preparedness, and Capacity

Resilience is shaped not only by the hazards a community faces, but also by the people, organizations, facilities, and preparedness systems that help residents anticipate, respond to, and recover from disasters. Throughout the planning process, residents consistently identified the Granite Street Historic District's greatest strength as its sense of community. Strong neighborhood connections, active local organizations, growing emergency management capacity, and a culture of volunteerism provide a solid foundation for future resilience efforts.

The assets described in this chapter are as important to the neighborhood's resilience as physical infrastructure. Together, they strengthen the community's ability to prepare for future flood events, support one another during emergencies, and recover more quickly after disasters.

Neighborhood Connections

The Granite Street Historic District benefits from a strong network of neighbors who routinely support one another during emergencies and throughout the recovery process. During recent flood events, residents shared information, checked on vulnerable neighbors, assisted with cleanup, and connected households with available resources.



Residents' willingness to assist one another creates opportunities to strengthen neighborhood preparedness beyond emergency response. Residents can support emergency communications, preparedness outreach, wellness checks, volunteer cleanup and recovery efforts, and neighborhood projects. Some property-level mitigation activities may also benefit from coordinated education, technical assistance, or

group purchasing opportunities that make improvements more accessible to participating households.

The name Granite Street Neighbors has been used throughout this planning process to refer collectively to residents of the neighborhood. It is not a formal organization but reflects the connections among residents and provides a shared identity for neighborhood communication, engagement, and resilience efforts. Together with the informal support networks that already exist, these relationships represent one of the neighborhood's most valuable resilience assets.



Community Facilities

Several public facilities and community organizations located within or adjacent to the district contribute to neighborhood resilience by providing gathering spaces, information, services, and emergency support.

Key community assets include:

- Jeudevine Memorial Library
- Memorial Building

- Buffalo Mountain Town Forest
- Police and Senior Center
- Hazen Union School
- Center for an Agricultural Economy
- Atkins Field, including the farmers market pavilion and community gathering space

These facilities support everyday community life while also serving important roles during emergencies through information sharing, community outreach, food access, volunteer coordination, and recovery activities.

Emergency Preparedness



The flood disasters of 2023 and 2024 highlighted the importance of investing not only in infrastructure, but also in preparedness. Since those events, the Town of Hardwick has significantly expanded its emergency management capabilities while working with residents and community partners to improve communication, coordination, and disaster readiness.

Current preparedness initiatives include:

- Emergency Operations Center
- Emergency Shelter
- Supply and Support Center
- Emergency Communications Volunteers
- Portable neighborhood warning siren for the Granite Street Historic District
- Emergency notification systems, including TextMyGov and VT-Alert
- Household preparedness education
- Community Go Bag workshops
- Muck and Gut volunteer training
- Ongoing preparedness outreach and resource sharing

These initiatives help ensure that residents receive timely information, have access to emergency resources, and are better prepared before, during, and after flood events. Together, they strengthen the neighborhood's capacity to respond effectively while reducing reliance on outside assistance during the critical early stages of a disaster.

Local Knowledge and Leadership

Residents possess extensive knowledge of neighborhood flooding patterns, drainage concerns, transportation challenges, and community needs developed through decades of lived experience. This local knowledge complements technical engineering analyses and provides valuable insight into how flooding affects daily life within the district.

The planning process also highlighted the importance of local leadership and collaboration. Residents, municipal staff, the Steering Committee, nonprofit organizations, emergency management volunteers, and community partners have worked together to identify priorities, develop practical solutions, and advance implementation of resilience projects.



The experiences gained through recent flood events have strengthened relationships throughout the neighborhood and demonstrated that resilience depends not only on infrastructure improvements but also on informed residents, trusted partnerships, and an engaged community.

Building on Existing Strengths

The Granite Street Historic District is not starting from scratch. The neighborhood already possesses many of the relationships, facilities, volunteer networks, and preparedness systems needed to strengthen resilience. The recommendations presented in the following chapters build upon these existing assets, focusing on expanding preparedness, protecting homes and infrastructure, improving communication, and advancing projects that reduce flood risk over time.

6. Community Vision



The Granite Street Historic District planning process was built upon a simple question: **What would a more resilient neighborhood look like?** Through surveys, community meetings, workshops, and conversations with residents, a clear vision emerged. While flood mitigation was an important focus, residents consistently emphasized that resilience is about more than reducing floodwaters. It is also about protecting homes, maintaining essential services, strengthening community relationships, and ensuring that people can continue to live safely in the neighborhood they value.

The following themes emerged consistently throughout the planning process and provide the foundation for the recommendations contained in this plan.

What We Heard

Safety

Residents want to feel safe before, during, and after flood events. This includes reducing flood risks, improving emergency response, maintaining safe evacuation routes, and ensuring that vulnerable residents receive assistance when needed.

Communication

Timely, accurate, and reliable communication was identified as one of the neighborhood's highest priorities. Residents expressed support for expanding emergency notifications, strengthening

neighborhood communication networks, and providing clear information before, during, and after flood events.



Property Protection

Residents overwhelmingly expressed a desire to remain in the Granite Street Historic District while reducing damage to their homes. Practical solutions such as utility elevation, home flood assessments, drainage improvements, and financial assistance for mitigation projects were consistently identified as priorities.

Reliable Utilities and Power

Maintaining electrical service emerged as a critical concern throughout the planning process. Many homes rely on sump pumps to reduce basement flooding, making power outages a significant secondary hazard during flood events. Residents also emphasized the importance of protecting furnaces, water heaters, electrical systems, and other critical utilities from flood damage.

Neighborhood Connections

One of the neighborhood's greatest strengths is its people. Residents consistently described neighbors helping neighbors before, during, and after flood events. Preserving and strengthening these relationships was viewed as an essential component of long-term resilience.

Recovery Support

Residents recognized that recovery continues long after floodwaters recede. Access to information, volunteers, financial assistance, municipal support, and community organizations all contribute to helping residents recover more quickly and reduce future losses.

Future Investments

Residents expressed strong support for continued investment in projects that reduce flood risk while preserving the neighborhood's historic character and quality of life. Participants recognized that resilience will require both neighborhood-scale improvements and larger watershed projects that address flooding throughout the Lamoille River system.

Vision Statement

The Granite Street Historic District is a connected, informed, and resilient community that works together to reduce flood impacts, support neighbors during emergencies, protect homes and infrastructure, maintain critical services, and strengthen long-term quality of life.

This vision recognizes that resilience is not achieved through a single project or investment. It is built over time through collaboration, preparedness, practical mitigation, informed decision-making, and continued investment in both the neighborhood and the broader watershed. The recommendations presented in the following chapters are intended to transform this shared vision into practical actions that strengthen the Granite Street Historic District for generations to come

7. Resilience Strategy

The recommendations contained in this plan are organized around three resilience goals identified through resident engagement, technical analysis, and lessons learned from recent flood events. Together, these goals provide a framework for reducing flood risk while strengthening the Granite Street Historic District's ability to prepare for, respond to, recover from, and adapt to future disasters.

Goal 1: Prepare

Improve preparedness, communication, and awareness before disasters occur.

Recent flood events demonstrated that timely information, trusted communication systems, and household preparedness are essential to reducing risk. Residents consistently identified communication as one of the neighborhood's highest priorities and expressed support for expanding preparedness education and emergency notification systems.



Key actions include:

- Neighborhood warning siren
- Emergency communications volunteers at the town level
- Expanded enrollment in emergency notification systems
- Community preparedness education
- Go Bag workshops
- Household preparedness resources and outreach

These initiatives help ensure that residents receive timely information, understand available resources, and are better prepared before floodwater begins to rise.

Flood Traffic Management and Neighborhood Access

During flood events, vehicle traffic through inundated streets can create additional hazards for residents and emergency responders. Vehicle wakes can also push floodwater toward homes and increase impacts to already vulnerable properties. The Town will develop a simple flood traffic management protocol for the Granite Street neighborhood that identifies locations for temporary road closures and barricades when flooding occurs, establishes responsibility for placing and removing barricades, and provides for coordination among Police, Fire, Public Works, and emergency management personnel.

The protocol should identify predetermined closure points that can be activated quickly as conditions develop, while maintaining emergency access where feasible. Public messaging through TextMyGov, VT-Alert, social media, and other Town communication systems should accompany closures so residents understand when access is restricted and why.

Goal 2: Protect

Reduce damage to homes, utilities, infrastructure, and the surrounding watershed.

The planning process confirmed that flood risk within the Granite Street Historic District results from multiple interacting factors, including flooding from Cooper Brook, backwater effects from the Lamoille River, neighborhood drainage limitations, and broader watershed conditions. As a result, no single project will eliminate flood risk. Instead, resilience will be achieved through a combination of neighborhood-scale improvements and larger watershed investments. The Residential Utility Elevation Program represents an important first step in reducing damage to flood-prone homes, but utility protection is only one component of residential flood mitigation. Depending on individual property conditions, additional strategies may include backflow prevention, basement improvements, flood-damage-resistant materials, flood openings, drainage improvements, backup power, structural modifications, and other measures appropriate for older and historic buildings.

The Town should continue working with residents and technical partners to expand access to information, technical assistance, and funding for appropriate property-level mitigation measures.

Neighborhood-Scale Projects

These projects directly reduce flood impacts within the Granite Street Historic District and improve the resilience of homes and infrastructure.

Key projects include:

- Residential utility elevation program
- Granite Street culvert improvements and flood benching
- Spring Street Extension Floodplain Restoration
- Neighborhood stormwater improvements

Lamoille River Watershed Projects

Flooding within the neighborhood is also influenced by conditions throughout the Lamoille River watershed. Continued support for watershed-scale projects is essential to achieving long-term flood resilience.

Key projects include:

- Jackson Dam feasibility study and potential dam removal

- LVRT embankment modifications
- Confluence floodplain restoration
- Sawmill Park floodplain restoration

Together, these projects provide multiple layers of flood risk reduction by improving neighborhood infrastructure, restoring floodplain function, reducing localized flooding, and addressing broader watershed processes.

Goal 3: Recover and Adapt

Strengthen recovery systems and support long-term resilience investments.

Recovery begins long before a disaster occurs. Building strong community partnerships, maintaining neighborhood connections, and continuing to invest in resilience help reduce future losses while supporting faster recovery following flood events.

Key actions include:

- Strengthen neighborhood support systems
- Coordinate recovery resources and assistance
- Continue community engagement through Granite Street Neighbors
- Conduct Muck and Gut volunteer training
- Monitor implementation progress and update the plan as conditions change



The Granite Street Historic District has already made significant progress by expanding emergency management capacity, strengthening volunteer networks, and developing implementation-ready projects. Continued collaboration among residents, municipal officials, nonprofit organizations, and community partners will ensure that the recommendations contained in this plan remain active, achievable, and responsive to future needs.

Together, these three goals recognize that resilience is built through preparation, practical mitigation, strong community relationships, and sustained investment. By implementing these recommendations, the Granite Street Historic District can continue building a safer, stronger, and more resilient future while preserving the historic neighborhood and community character that residents value.

8. Priority Action Plan

The Granite Street Historic District Flood and Community Resilience Plan is intended to guide implementation over the coming years by identifying practical actions that improve preparedness, reduce flood risk, and strengthen the neighborhood's ability to recover from future disasters. While many of the recommendations will require additional funding, engineering, or partnerships, several important initiatives are already underway. The following priorities provide a roadmap for continued implementation and investment.

How the Priority Projects Were Identified

The Granite Street Historic District Flood and Community Resilience Plan did not begin with a predetermined list of construction projects. The planning process began with residents' experiences during the 2023 and 2024 floods, their knowledge of recurring problems, and their priorities for remaining safely in the neighborhood.

Through the neighborhood survey, public meetings, and Steering Committee discussions, residents identified concerns about flooding of homes and basements, vulnerable utilities, stormwater drainage, transportation access, and the difficulty of recovering from repeated disasters. These concerns helped establish the issues that the technical analysis needed to address.

SLR evaluated potential flood mitigation alternatives along Cooper Brook and within the broader Lamoille River watershed. The alternatives included floodplain restoration opportunities at Spring Street Extension, Atkins Field, the former Davis Sawmill property, and the Fire Station property, as well as potential infrastructure modifications and combinations of improvements.

The Town then asked SLR to identify which alternatives they would recommend pursuing based on their anticipated flood-risk reduction benefits relative to potential implementation costs. This was an important step in moving from a broad range of possible interventions toward a manageable set of projects for additional engineering and potential funding.

Based on SLR's preliminary assessment, two projects were identified for further development:

Granite Street Culvert Improvements and Flood Benching. This concept addresses hydraulic and infrastructure conditions directly associated with flooding in the neighborhood. Advancing the project for additional engineering will allow the Town to better understand the potential improvements, anticipated benefits, costs, and feasibility of construction.

Spring Street Extension Floodplain Restoration. This concept would investigate opportunities to restore floodplain function along Cooper Brook upstream of Atkins Field. SLR's preliminary analysis

identified approximately 2 acres of potential restoration and modeled changes in floodwater elevations associated with the conceptual improvements. Further engineering will be necessary to refine the project and evaluate its feasibility and anticipated benefits. The key point of this restoration is to allow flood water that flows to Brook Street or Spring Street to more easily reenter the Cooper Brook.

The selection of these two projects for additional development does not mean that other alternatives lack value. Rather, the recommendations provided a practical starting point for advancing work within the scope of this neighborhood planning effort.

Other alternatives may involve larger infrastructure investments, additional property considerations, or decisions that extend beyond the Granite Street Historic District. The technical analysis does not establish that these alternatives should be permanently set aside. They remain documented in Appendix C and may inform future municipal, transportation, and watershed projects.

The priority projects are not final construction proposals. Additional design, cost estimates, environmental review, permitting, property coordination, and funding will be required before implementation decisions can be made.

This approach reflects one of the central lessons of the planning process: residents' experiences should guide the questions being asked, engineering should help evaluate potential solutions, and municipal decisions should consider both anticipated benefits and the practical requirements of implementation.

By documenting how the two projects were identified, the plan preserves the reasoning behind the recommendations while leaving room for additional opportunities as Hardwick continues its broader flood resilience work.

Immediate Actions (0–2 Years)

These actions are underway, funded, or capable of being implemented in the near term.

- Operate the neighborhood warning siren and complete permanent installation at Atkins Field.
- Continue implementation of the residential utility elevation program.
- Restore and establish annual maintenance of the bioretention area at the intersection of Cottage Street and Lower Cherry Street, consistent with the recommendations of the 2018 Stormwater Master Plan.
- Maintain and support trained Emergency Communications Volunteers at the town level.
- Expand enrollment in emergency notification systems, including TextMyGov and VT-Alert.
- Conduct community preparedness education, including the Go Bag Workshop.
- Coordinate with the Buffalo Mountain Town Forest Committee to ensure that plans and activities within the Town Forest, located within the same watershed above the Granite Street Historic District, consider potential impacts to neighborhood flood resilience.

- Continue preparedness outreach and distribution of household preparedness resources.
- Develop and implement a neighborhood flood traffic management protocol**,** including predetermined road-closure locations, barricade placement, departmental responsibilities, emergency-access procedures, and public notification. The purpose is to prevent unnecessary vehicles from entering flooded portions of the neighborhood and reduce vehicle-generated wakes that can worsen flooding impacts on homes.

Near-Term Actions (2–5 Years)

These actions require additional engineering, planning, partnerships, or funding but have been identified as high priorities through technical analysis and community engagement.

- Advance Granite Street culvert improvements and flood benching.
- Advance the Spring Street Extension floodplain restoration project.
- Explore opportunities to improve electrical resilience for homes that rely on sump pumps and other critical utilities.
- Expand community preparedness and volunteer training, including Muck and Gut training.
- Complete a comprehensive neighborhood stormwater assessment and incorporate findings into the next update of the Town's Stormwater Master Plan. Implement neighborhood stormwater improvements.
- Develop homeowner education and technical assistance opportunities focused on property-level flood mitigation, including approaches appropriate for older and historic homes.

Long-Term Actions (5+ Years)

The following watershed-scale initiatives are being pursued through separate municipal and regional planning processes. Their inclusion recognizes their potential relationship to neighborhood flood resilience and does not alter their existing governance, funding, or approval requirements.

These actions focus on larger watershed initiatives and the continued evolution of neighborhood resilience.

- Support implementation of Lamoille River watershed projects, including Jackson Dam, LVRT modifications, Sawmill Park floodplain restoration, and confluence restoration.
- Maintain neighborhood engagement through Granite Street Neighbors and other community partners.
- Review, update, and refine the Neighborhood Flood and Community Resilience Plan as projects are completed and new opportunities emerge.

Implementation Table

The following table is intended to serve as a living implementation tool. It should be updated periodically as projects advance, funding is secured, and implementation responsibilities evolve.

Action	Current Status	Lead Organization	Key Partners	Potential Funding	Timeline
Neighborhood Warning Siren	Portable unit operational; permanent installation at Atkins Field pending	Town of Hardwick	Hardwick Police Department	Municipal Budget	2026–2027
Coordinate with the Buffalo Mountain Town Forest Committee to ensure that plans and activities within the Town Forest consider potential impacts to flood resilience in the Granite Street Historic District	New action identified through final neighborhood review	Town of Hardwick	Buffalo Mountain Town Forest Committee; Granite Street residents	Staff/volunteer coordination; no dedicated funding anticipated.	Immediate / Ongoing
Residential Utility Elevation Program	Underway	Town of Hardwick	Homeowners, State Partners	State Appropriation / Grants	2026–2027
Residential Flood Mitigation Education & Technical Assistance	Additional opportunities needed beyond the Utility Elevation Program	Town of Hardwick	Homeowners, floodplain/building professionals, state and community partners	Technical Assistance / State & Federal Grants	2-5 Years
Emergency Communications Volunteers	Operational	Town of Hardwick	Volunteers	Municipal	Ongoing
Emergency Notification Enrollment (TextMyGov &	Ongoing	Town of Hardwick	Residents	Municipal	Ongoing

Action	Current Status	Lead Organization	Key Partners	Potential Funding	Timeline
VT-Alert)					
Community Preparedness Education & Go Bag Workshops	Ongoing	Town of Hardwick	Community Partners	Municipal	Annual
Neighborhood Flood Traffic Management & Road Closure Protocol	Protocol to be developed; traffic calming/enforcement can be used during flood events in the interim.	Town of Hardwick	Police Department, Fire Department, Public Works	Municipal	0–2 Years
Granite Street Culvert Improvements & Flood Benching	Conceptual design complete; engineering and funding needed	Town of Hardwick	Engineering Partners	State & Federal Grants	2–5 Years
Spring Street Extension Floodplain Restoration	Conceptual design complete; engineering and funding needed	Town of Hardwick	Engineering Partners	State & Federal Grants	2–5 Years
Restore & Maintain Cottage Street / Lower Cherry Street Bioretention Area	Identified in 2018 Stormwater Master Plan; restoration and annual maintenance needed	Town of Hardwick	Public Works	Municipal / Stormwater Grants	0-2 Years
Neighborhood Stormwater Assessment	Needs completion to identify deficiencies and future projects	Town of Hardwick	Engineering Partners	State Stormwater Grants	2–5 Years
Incorporate Granite Street into Next Stormwater Master Plan Update	Future planning effort	Town of Hardwick	Engineering Partners	Municipal Planning Grant / Stormwater Grants	2–5 Years
Neighborhood Stormwater Improvements	To be prioritized following assessment	Town of Hardwick	Engineering Partners	State & Federal Grants	2–5 Years
Electrical Resilience for Homes	Evaluation needed	Town of Hardwick	Utility Providers, Homeowners	Utility Programs / Grants	2–5 Years

Action	Current Status	Lead Organization	Key Partners	Potential Funding	Timeline
Dependent on Sump Pumps					
Community Preparedness & Muck and Gut Training	Initial training planned; ongoing expansion	Town of Hardwick	Community Partners, Volunteers	Municipal / Grant Funding	Ongoing
Jackson Dam Project	Feasibility complete; advancing toward design	Multiple Partners	CCNRCD, State Agencies	State & Federal Grants	5+ Years
Lamoille Valley Rail Trail Embankment Modifications	Concept identified	Multiple Partners	VTrans, VHB, Engineering Partners	State & Federal Grants	5+ Years
Confluence Floodplain Restoration	Planning underway	Multiple Partners	SLR, State Agencies	State & Federal Grants	5+ Years
Sawmill Park Floodplain Restoration	Planning and property acquisition underway	Town of Hardwick	State Partners	State & Federal Grants	5+ Years
Annual Review and Update of the Neighborhood Flood & Community Resilience Plan	Annual implementation review	Town of Hardwick	Granite Street Historic District residents and community partners	Municipal	Annual

This action plan is intended to be updated as projects move from concept to design, construction, and completion. Town staff will review the implementation table annually, in coordination with Granite Street Neighbors and other project partners, and provide updates as projects advance, funding becomes available, and priorities change. It provides a practical framework for tracking progress, coordinating partners, and identifying future funding opportunities while ensuring that implementation remains aligned with the priorities identified by residents throughout the planning process.

9. Measuring Progress and Next Steps

The Granite Street Historic District Flood and Community Resilience Plan is intended to be a living document that guides implementation, supports funding opportunities, and evolves as projects are completed and new priorities emerge. Measuring progress will help the Town, residents, and community partners maintain momentum while ensuring that future investments continue to reflect neighborhood needs.

Tracking Progress

Implementation of this plan should be reviewed regularly to document completed projects, evaluate progress toward identified goals, and identify opportunities for future action. While some recommendations can be completed in the near term, others will require ongoing coordination, engineering, and investment over many years.

Progress should be measured not only by completed construction projects, but also by improvements in preparedness, community engagement, emergency management capacity, and the neighborhood's overall ability to withstand and recover from future flood events.

Roles and Responsibilities

Successful implementation will require continued collaboration among residents, municipal staff, elected officials, nonprofit organizations, state and federal agencies, and other community partners.

The Town of Hardwick will play a coordinating role in advancing implementation; however, many recommendations depend upon partnerships, grant funding, volunteer participation, and continued neighborhood engagement. Granite Street residents and future project partners will continue to play an important role in communicating with residents, supporting project development, and helping maintain momentum.

Annual Review Process

An annual review of this plan is recommended to:

- Evaluate progress on priority actions.
- Update project status and implementation timelines.
- Identify new funding opportunities.
- Incorporate lessons learned from recent flood events.
- Revise priorities as community needs and conditions change.
- Celebrate completed projects and community accomplishments.

Whenever practical, the annual review should be incorporated into existing municipal planning, emergency management, or resilience activities to ensure the plan remains an active implementation tool rather than a document placed on a shelf.

As part of the annual review, the Town should also consider whether actions identified through this plan should be incorporated into future updates of the Local Hazard Mitigation Plan, The Hardwick Plan, capital planning, stormwater planning, or other relevant municipal programs. Connecting neighborhood priorities to these broader planning efforts will help maintain continuity as projects advance, funding opportunities emerge, and municipal priorities evolve.

Potential Indicators

Progress may be measured using a variety of implementation and community resilience indicators, including:

- Number of residential utility elevations completed.
- Enrollment in emergency notification systems.
- Participation in preparedness workshops and training.
- Volunteer participation in emergency response and recovery activities.
- Advancement of neighborhood capital projects from planning through construction.
- Progress on Lamoille River watershed projects that reduce flood risk within the district.
- Reduction in repetitive flood losses over time.
- Resident participation in neighborhood meetings and resilience initiatives.

These indicators should be viewed collectively rather than individually, recognizing that resilience is built through many small improvements over time rather than a single project or investment.

Future Resident Engagement



The neighborhood survey provides a baseline for understanding resident experiences, preparedness, and priorities. A similar survey may be useful following a significant flood event, after major implementation milestones, or periodically as conditions and neighborhood needs change. Comparing future results with the original survey can help identify emerging concerns, evaluate progress, and determine whether resilience investments continue to reflect resident priorities.

From Neighborhood Concerns to Municipal Action

The Granite Street Historic District Flood and Community Resilience Plan began with residents asking what could be done to reduce repeated flood damage while allowing them to remain in their homes. Following the floods of 2023 and 2024, the neighborhood wanted more than another assessment of what had happened. Residents wanted to understand their options and see meaningful progress toward reducing future losses.

Through surveys, public meetings, Steering Committee discussions, and ongoing conversations, residents documented their experiences and identified priorities. Their concerns extended beyond flooding itself to include damaged utilities, inaccessible roads, emergency communications, household preparedness, and the challenges of recovery.

The planning process connected those experiences with technical analysis, municipal operations, and potential funding opportunities. SLR's engineering work provided a foundation for evaluating flood mitigation alternatives and identifying projects for further development. At the same time, residents and municipal partners identified practical actions that could improve preparedness and reduce damage without waiting for major construction.

The $33,300 Municipal Planning Grant supported this neighborhood-scale planning effort, bringing together community engagement, technical analysis, project identification, and implementation planning. The work also complemented other resilience investments, including approximately $700,000 in separately secured funding for residential utility elevations and broader municipal and watershed initiatives.

The result is more than a completed report. The neighborhood now has a documented record of its flood experiences and priorities, technical information to inform future investments, projects identified for further engineering, and an implementation framework that can be updated as work progresses.

Just as importantly, the process has helped establish an ongoing relationship between Granite Street residents and the Town. Through Granite Street Neighbors and other community partners, residents have a way to remain involved in discussions about preparedness, project development, and the future of their neighborhood.

The plan does not eliminate flood risk or guarantee that every proposed project will be constructed. It does establish a path for continuing the work that residents asked the Town to undertake.

Looking Ahead

The Granite Street Historic District Flood and Community Resilience Plan represents an important step in Hardwick's recovery from repeated flood disasters. It also demonstrates what can happen when a neighborhood organizes around a shared concern and municipal government responds with a coordinated planning effort.

The process may provide a useful model for other Hardwick neighborhoods facing different flood risks, infrastructure challenges, and recovery needs. Its value lies not in prescribing the same solutions everywhere, but in showing how resident knowledge, technical expertise, and municipal resources can be brought together to develop locally appropriate actions.

The residents of the Granite Street Historic District pushed for this work because they care about their homes, their neighbors, and the future of their community. The plan reflects that commitment and provides a framework for carrying it forward.

Its success will ultimately be measured not by the completion of this document, but by the actions that follow and the neighborhood's ability to prepare for, withstand, and recover from future floods.

Appendix A – Community Survey Analysis

Survey Participation

Thirty households, representing approximately **59 percent** of the 51 residences within the Granite Street Historic District, participated in the survey. The high participation rate reflects the neighborhood's strong interest in reducing flood risk while preserving the community's historic character and quality of life.

About the Neighborhood

Length of Residency

The survey demonstrates that the Granite Street Historic District is a stable, long-established neighborhood.

Length of Residency	Households	Percent
Less than 1 year	1	3%
1–5 years	7	23%
6–10 years	6	20%
More than 10 years	16	53%

Key Finding

Nearly **73%** of respondents have lived in the neighborhood for more than six years, and over half have lived there for more than a decade. This reflects strong neighborhood stability and long-term investment in the community.

Flood Experience

Has your property experienced flooding?

Response	Households	Percent
Yes	26	90%
No	3	10%

Most respondents have experienced flooding, with many reporting multiple flood events over several decades. Recent floods in 2023 and 2024 were the most frequently identified events.

Reported Sources of Flooding

Residents identified multiple causes of flooding.

Source	Responses
River/Brook Overflow	23
Groundwater Infiltration	12
Stormwater Backup	6
Other localized causes	Several

Key Finding

Residents recognize that flooding results from multiple interacting causes rather than a single source, reinforcing the need for both neighborhood-scale and watershed-scale solutions.

Flood Impacts

Most Common Impacts

Impact	Responses
Basement flooding	24
Road access blocked	11
Structural damage	9
Vehicle damage	4
Loss of power	3

Key Finding

The survey demonstrated that the greatest impacts occur at the household level. Basement flooding, damaged utilities, blocked transportation routes, and prolonged recovery were common experiences following flood events.

Financial Recovery

Financial Assistance

Response	Households
Received assistance	17
No assistance	9

Response	Households
Not sure	1

Sources included FEMA, insurance, flood insurance, and community donations.

Volunteer Assistance

Only one-third of respondents reported receiving volunteer assistance for cleanup or repairs.

Organizations mentioned included:

- The Civic Standard
- kuRRVE
- CAE
- Friends and neighbors
- Family members

Home Mitigation Priorities

Residents overwhelmingly supported practical actions to reduce future flood damage.

Highest Priorities

Improvement	Responses
Elevate utilities	15
Install generator	15
Basement improvements	12
Install sump pump	11
Floodproof basement	11
Install backflow preventer	11
Improve drainage	10

Residents also expressed overwhelming interest in:

- Home Flood Risk Assessments (73%)
- Learning about grants and funding opportunities (92%)

Emergency Preparedness

Household Preparedness

Response	Households
Written emergency plan	8
No plan	8
Some preparedness but no written plan	13

Would Assist Neighbors

Response	Households
Yes	21
Maybe	7
No	2

Know Where to Go During a Flood

- Yes – 25 households
- No – 1 household
- Would remain home if possible – 4 households

Key Finding

Residents demonstrate strong community connections and a willingness to assist one another, but additional household preparedness planning would strengthen neighborhood resilience.

Special Considerations

The survey identified households with additional needs during emergencies.

Need	Responses
Pets	16
Electricity-dependent medical equipment or refrigerated medications	11
Mobility limitations	8
Transportation needs	1

These findings reinforce the importance of emergency communications, wellness checks, backup power, and neighborhood support systems.

Communication

Residents receive emergency information from many different sources.

Most frequently used:

- Facebook/Facebook Messenger
- Town emails and text messages
- TextMyGov
- Television
- VT-Alert
- Radio
- Neighbors

Only **50%** of respondents are enrolled in both VT-Alert and TextMyGov, while another **10%** requested assistance enrolling. This represents an immediate opportunity to strengthen neighborhood preparedness.

Community Education Priorities

Residents expressed strong interest in future preparedness workshops.

Most requested topics included:

- Creating Go Bags
- DIY floodproofing
- Flood cleanup
- Knowing when to evacuate
- Mental health after disasters
- Flood and homeowner insurance

These responses directly informed the Town's preparedness programming.

What Residents Told Us

Several themes emerged consistently throughout the survey.

"Building & strengthening community ties before the next (inevitable) flood is wise and forward thinking."

"Don't want to flood – don't want to lose home."

“Thank you. Thank you. Thank you.”

“The Town has taken a couple of suggestions and implemented them… They have been very responsive.”

Together, these comments demonstrate that residents are seeking practical solutions, continued municipal leadership, and stronger neighborhood preparedness—not relocation.

Survey Findings Summary

Theme	Finding	Planning Response
Neighborhood Stability	Long-term residents with deep community ties	Focus on helping residents remain in place
Flood Experience	Nearly 90% have experienced flooding	Multi-layered resilience strategy
Home Protection	Utility elevation, generators, drainage, and floodproofing ranked highest	Utility Elevation Program and infrastructure improvements
Funding	92% want information about grants	Homeowner assistance and funding outreach
Preparedness	Strong willingness to help neighbors, but limited written emergency plans	Preparedness education and Go Bag workshops
Communication	Multiple communication methods used; enrollment can improve	Emergency communications volunteers, TextMyGov, VT-Alert, neighborhood siren
Community Strength	Residents value neighborhood relationships and want to stay	Neighborhood-centered implementation strategy

Appendix B – Community Engagement Summary

Community engagement was a central component of the Granite Street Historic District Flood and Community Resilience Plan. The planning process was designed to combine technical analysis with the knowledge, experiences, and priorities of the people who live in the neighborhood.

Engagement occurred throughout the planning process rather than through a single public meeting or survey. Residents participated through neighborhood gatherings, community meals, a detailed resident survey, workshops, Steering Committee discussions, informal conversations, educational events, and review of potential resilience strategies. Thirty households participated in the neighborhood survey, representing approximately 59 percent of the district's 51 residences.

The engagement process focused on several recurring questions: How does flooding affect residents and daily life in the neighborhood? What makes preparedness and recovery difficult? What do residents value and want to preserve? What practical measures could help people remain safely in their homes? How can communication and emergency preparedness be improved? And which neighborhood and watershed investments should be priorities?

What Residents Told Us

Several themes remained consistent throughout the planning process.

Residents expressed a strong desire to remain in the Granite Street Historic District while reducing future flood damage. Property-level priorities included utility elevation, backup power, basement improvements, backflow prevention, drainage improvements, home flood risk assessments, and better access to information about grants and financial assistance.

Communication and preparedness were also recurring concerns. Residents generally reported strong connections with neighbors and a willingness to assist one another during emergencies, but relatively few households had formal emergency plans. Residents supported improved emergency notifications, preparedness education, and continued neighborhood communication before, during, and after flood events.

Residents also identified needs that can affect a household's ability to prepare for or respond to flooding, including mobility limitations, electricity-dependent medical equipment or refrigerated medications, pets, and transportation needs. These findings helped reinforce the importance of reliable communications, backup power, wellness checks, and neighborhood support systems.

At the same time, residents consistently described the neighborhood itself as an important source of resilience. Neighbors share information, check on one another, help with cleanup, connect households with resources, and bring substantial knowledge of local flooding and drainage conditions. These relationships and experiences were treated as community assets alongside physical infrastructure and technical flood mitigation projects.

Atkins Neighborhood Conversations

Community engagement also included the Atkins Neighborhood Conversations, a summer 2026 series held during Monday community meals at Atkins Field. These informal gatherings created opportunities for residents to learn about flooding and watershed processes, ask questions, and talk directly with people working in river science, floodplain management, and flood resilience.

Topics included how streams respond during floods, river and floodplain processes, sediment and dredging, and flood insurance. The conversations were intended to make technical information more accessible while giving residents an informal setting to ask questions that might not arise during a traditional public meeting.



The Atkins conversations complemented the formal planning process rather than serving as plan-specific public hearings. They helped build a shared understanding of how rivers and watersheds function and why different approaches to flood mitigation may be appropriate in different locations. They also strengthened relationships among residents, municipal staff, community organizations, and technical partners.

Holding these conversations during an existing neighborhood community meal was intentional. Bringing information into a familiar community setting reduced some of the formality associated with conventional municipal meetings and allowed residents to participate while sharing a meal and talking with neighbors. The experience demonstrated the value of combining public education, relationship-building, and resilience planning rather than treating them as separate activities.

From Engagement to Action

Resident participation was used to shape the plan, not simply to document public opinion. Information gathered through the survey, meetings, conversations, and other engagement helped establish the plan's three resilience goals: Prepare, Protect, and Recover and Adapt.

Resident priorities are reflected throughout the Priority Action Plan. Examples include the neighborhood warning siren, Residential Utility Elevation Program, emergency notification enrollment, preparedness education, neighborhood flood traffic management, property-level mitigation education, electrical resilience for homes dependent on sump pumps, stormwater improvements, and continued neighborhood engagement.

Importantly, implementation did not wait for completion of the plan. Several initiatives identified through the broader resilience effort were already underway or operational during the planning process, including residential utility elevation, emergency communications volunteers, the Supply and Support Center, the portable neighborhood warning siren, and preparedness education.

Granite Street Neighbors

The name Granite Street Neighbors was used throughout the planning process to refer collectively to residents of the neighborhood. Granite Street Neighbors is not a formal organization and does not have a governing structure or formal membership.

Instead, the name reflects the relationships among residents and provides a shared identity for neighborhood communication, engagement, and resilience activities. The informal nature of the group allows residents to participate in different ways and at different levels while building upon the neighbor-to-neighbor relationships that already existed before this planning effort.

Engagement Timeline

The development of this plan grew from a sustained neighborhood conversation that began following the recent floods and continued throughout the planning process.

Date	Engagement
August 12, 2024	Initial neighborhood gathering following the 2024 flood, providing an opportunity for residents to share experiences, concerns, and recovery needs.
September 15, 2025	Granite Street neighborhood meeting focused on flood resilience, neighborhood concerns, and the developing planning effort.
Winter 2025–2026	Neighborhood update providing information on ongoing resilience work and upcoming opportunities for participation.
Winter 2025-2026	Resident survey completed by 30 households, representing approximately 59 percent of neighborhood residences.
May 20, 2026	Neighborhood dinner and planning meeting to discuss survey findings, resilience priorities, ongoing projects, and next steps.
Summer 2026	Atkins Neighborhood Conversations held during Monday community meals, providing informal flood and watershed education and opportunities for discussion with technical experts.
Throughout 2026	Steering Committee discussions, project-specific outreach, and ongoing conversations with residents informed development of recommendations and priorities.
September 30, 2026	Final neighborhood meeting at Atkins Field with residents and partners. Over soup and bread, participants reviewed the draft plan and completed a final review of the Priority Action Plan. Discussion resulted in an additional immediate action: coordination with the Buffalo Mountain Town Forest Committee to ensure that future plans and activities within the Town Forest, located within the same watershed above the Granite Street Historic District, consider potential impacts to neighborhood flood resilience.

The engagement process was intentionally varied because no single method reaches everyone. Surveys provided structured information that could be compared across households. Neighborhood meetings allowed residents to hear from one another and discuss shared concerns. Educational conversations helped build understanding of flood and watershed processes. Steering Committee discussions provided continuity throughout the project, while informal conversations created opportunities for residents to raise concerns or ideas outside formal meetings.

Together, these methods allowed technical analysis and lived experience to inform one another throughout development of the plan.

Continuing Engagement

Community engagement does not end with adoption or completion of this plan. The implementation framework calls for continued participation by residents and community partners as projects advance, funding opportunities emerge, and neighborhood conditions change.

The neighborhood survey also establishes a baseline that can be revisited over time. A similar survey may be useful following a significant future flood, after major implementation milestones, or

periodically as neighborhood conditions and priorities change. Comparing future results with the original survey can help identify emerging concerns and determine whether resilience investments continue to reflect resident priorities.

Continued engagement should remain flexible and make use of existing neighborhood activities whenever practical rather than creating additional meetings simply for the sake of engagement. The experience of the Granite Street planning process demonstrated that meaningful participation can occur in many forms—from a detailed survey or project meeting to a community meal, educational conversation, or discussion between neighbors.

The goal is not simply to keep residents informed. It is to maintain the relationships, local knowledge, and shared capacity that allow residents, the Town, and community partners to continue adapting and working together as conditions change.

Appendix C - Technical Analysis, Hydraulic Modeling, and Flood Mitigation Alternatives

Purpose of This Appendix

The technical materials included in this appendix document hydraulic modeling and flood mitigation alternatives evaluated by SLR as part of the Granite Street Historic District Flood and Community Resilience Plan.

The analysis examined how floodwater moves through Cooper Brook and the Lamoille River, how existing infrastructure and floodplain conditions influence flooding, and where changes to those conditions might reduce future flood impacts.

Although this plan focuses on the Granite Street Historic District, the engineering analysis necessarily extends beyond the neighborhood. Flooding within the district is influenced by upstream conditions along Cooper Brook, downstream water levels in the Lamoille River, and infrastructure that affects the movement of floodwater.

The technical work therefore provides both a neighborhood-scale understanding of flood risk and a broader perspective on potential mitigation opportunities throughout Hardwick.

How Technical Analysis Informed the Plan

Residents' experiences were an important starting point for the planning process. Through surveys, neighborhood meetings, and discussions, residents identified where flooding occurs, how water enters properties, which transportation routes become inaccessible, and what challenges they face during recovery.

SLR's hydraulic modeling provided an opportunity to examine those concerns using engineering analysis and to evaluate potential changes to existing conditions. This analysis built upon earlier hydraulic modeling completed by SLR International Corporation for the Northern Vermont Economic Development District (NVEDD), documented in the *Lamoille River Hydraulic Modeling, Lamoille River Basin* report (SLR Project No. 146.12911.00016, April 21, 2025). The earlier modeling provided a technical foundation that was further developed to evaluate flood conditions and potential improvements affecting the Granite Street neighborhood.

The work included consideration of floodplain restoration, modifications to hydraulic constraints, and combinations of potential improvements. These alternatives were evaluated to better understand where investments might provide meaningful reductions in flood risk.

Following the alternatives analysis, the Town asked SLR to identify which projects they would recommend advancing based on anticipated flood-risk reduction benefits relative to potential implementation costs.

The Granite Street culvert improvements and flood benching concept and the Spring Street Extension Floodplain Restoration concept were identified as priorities for additional engineering and evaluation.

These recommendations represent preliminary engineering judgment rather than a formal benefit-cost analysis or a determination that either project is ready for construction.

Guide to Technical Materials

The SLR presentation materials document several related areas of investigation.

Area of analysis	What the materials illustrate
Lamoille River and Cooper Brook confluence	Flood conditions where the two waterways meet, including backwater influences and potential mitigation opportunities within the broader river corridor.
Lamoille Valley Rail Trail and Wolcott Street corridor	The influence of existing infrastructure on floodwater movement and opportunities for changes to floodplain connectivity and conveyance.
Cooper Brook hydraulic modeling	Existing and proposed flood conditions, water-surface profiles, and modeled differences associated with potential improvements.
Spring Street Extension	A conceptual floodplain restoration area upstream of Atkins Field, including potential grading changes and modeled hydraulic effects.
Atkins Field and former Davis Sawmill property	Additional opportunities for floodplain restoration and increased floodwater storage or conveyance along Cooper Brook.
Fire Station property	A potential future floodplain restoration opportunity dependent on relocation of the existing facility and other municipal decisions.
Route 15/Wolcott Street bridge	Existing hydraulic constraints and potential modifications to the bridge opening and roadway approach.
Combined alternatives	Modeling of multiple potential improvements to evaluate their effects on floodwater movement and water-surface elevations.

The materials include maps, cross-sections, water-surface profiles, and conceptual illustrations. These figures should be considered together with the accompanying descriptions and modeling assumptions.

Understanding the Status of the Alternatives

The alternatives illustrated in this appendix represent potential flood mitigation opportunities evaluated during the planning process. They are not all proposed projects, and their inclusion does not constitute municipal approval, a commitment of funding, or authorization for construction.

Some alternatives involve infrastructure, properties, or decisions extending beyond the Granite Street Historic District. Others depend on future landowner coordination, engineering, environmental review, or separate municipal and state approvals.

The modeled results also represent specific flood scenarios and conceptual project configurations. They do not predict the precise outcome of every future flood or guarantee that an individual property will be protected.

As projects advance, additional analysis will be necessary to confirm feasibility, costs, environmental considerations, permitting requirements, and anticipated benefits.

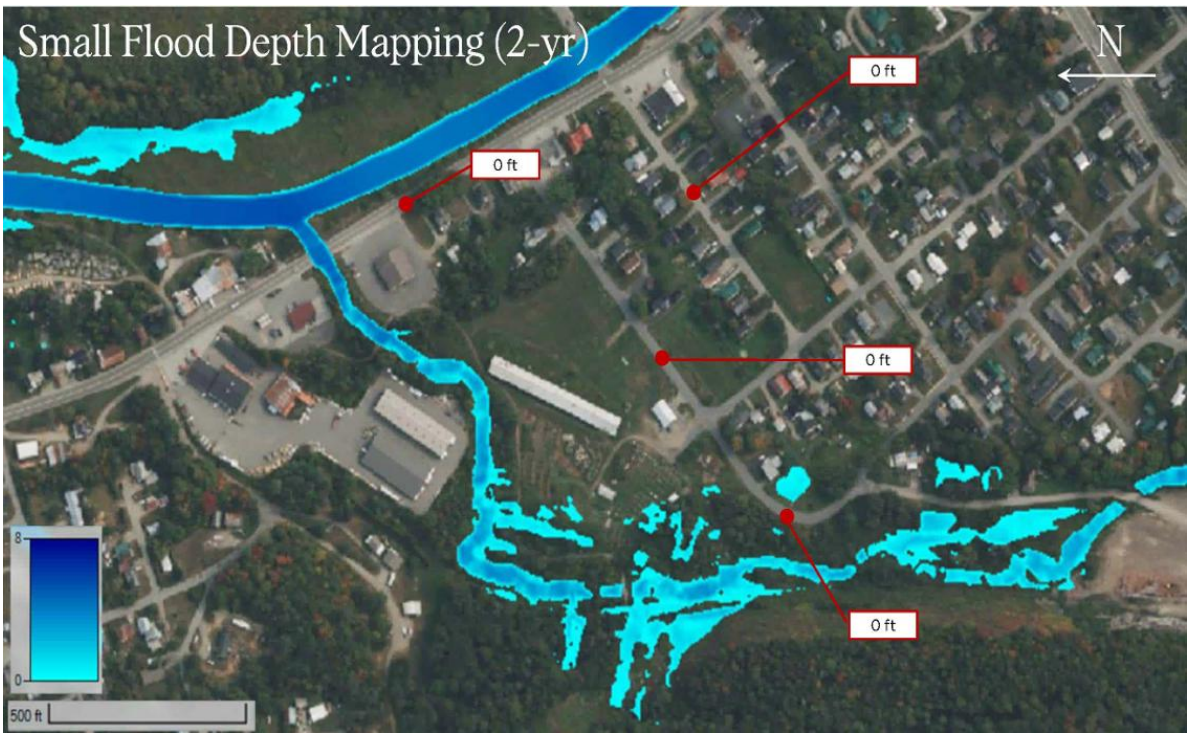
Preserving the Technical Record

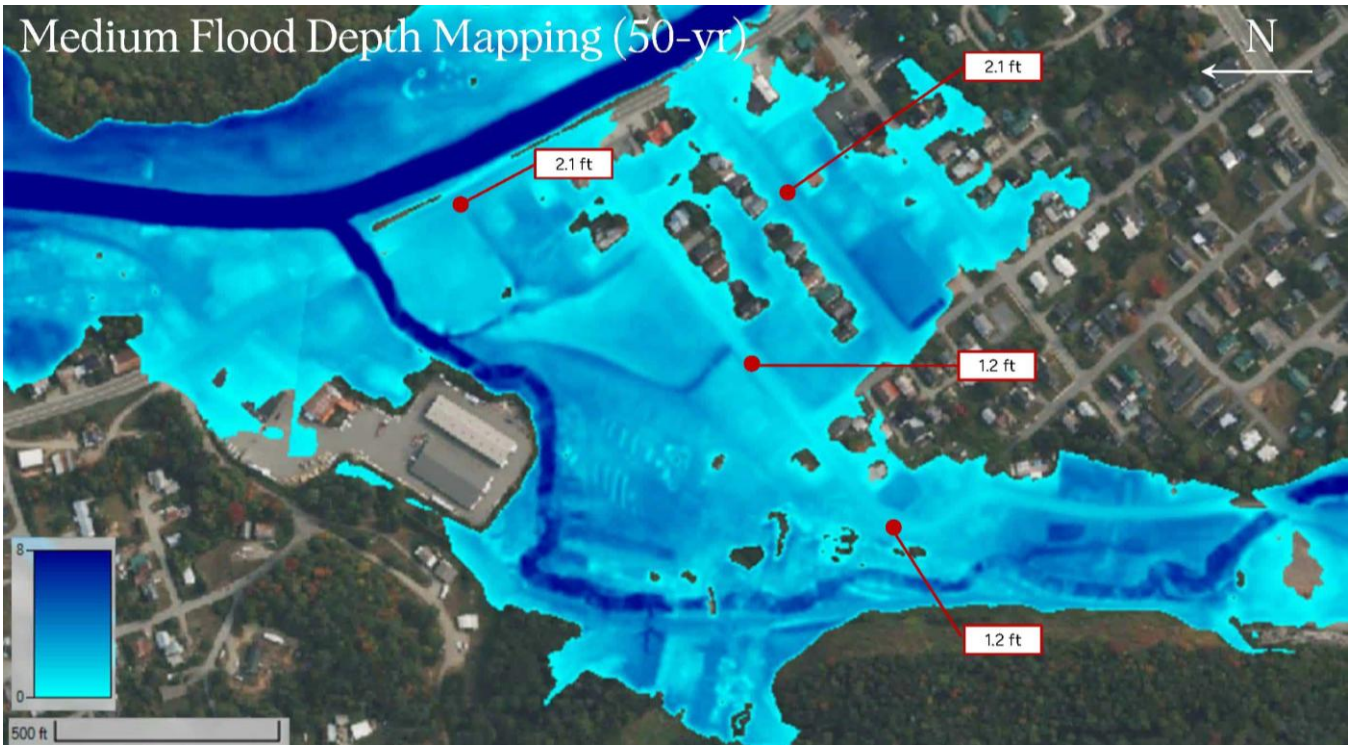
One purpose of including these materials is to preserve the engineering work completed during this planning effort.

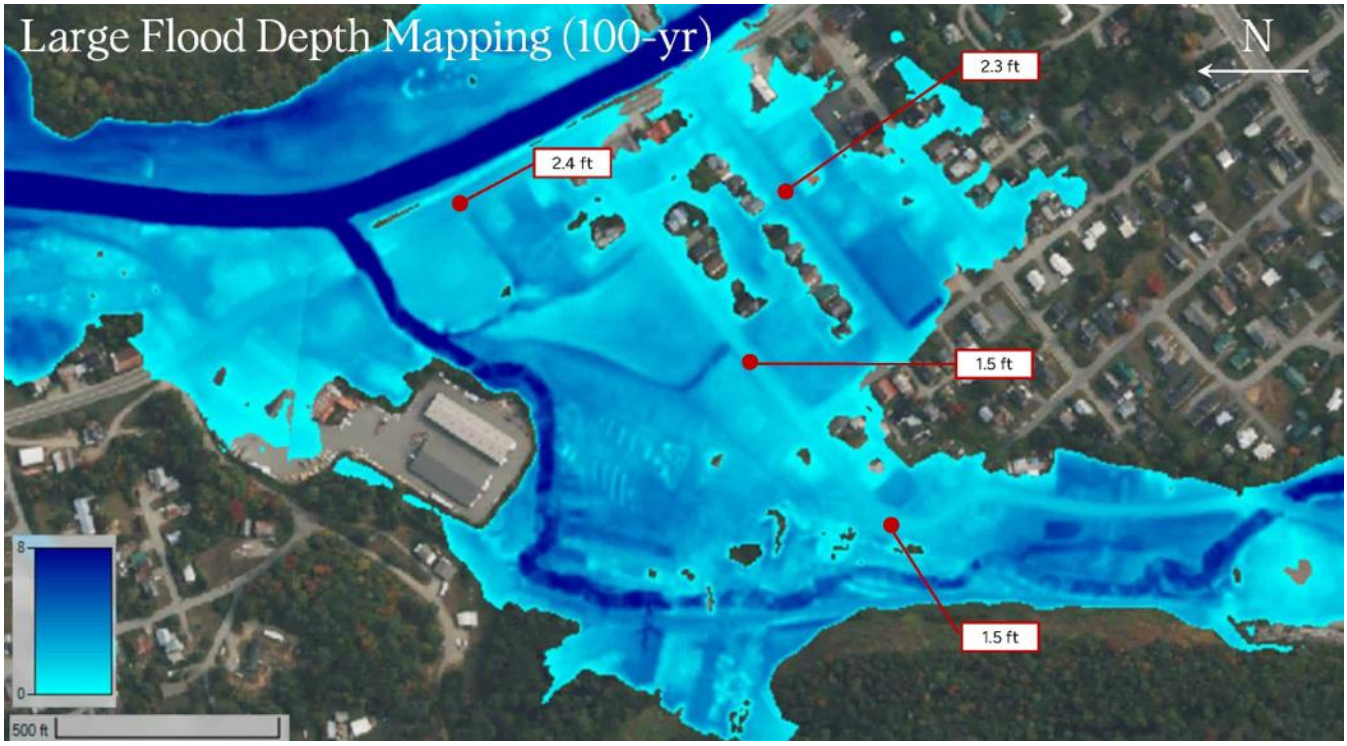
Not every alternative evaluated by SLR was selected for continued development. However, these findings may become relevant as other municipal projects move forward, funding opportunities emerge, or conditions within the watershed change.

The technical record may also support future discussions about transportation infrastructure, floodplain restoration, municipal facilities, and coordinated watershed investments.

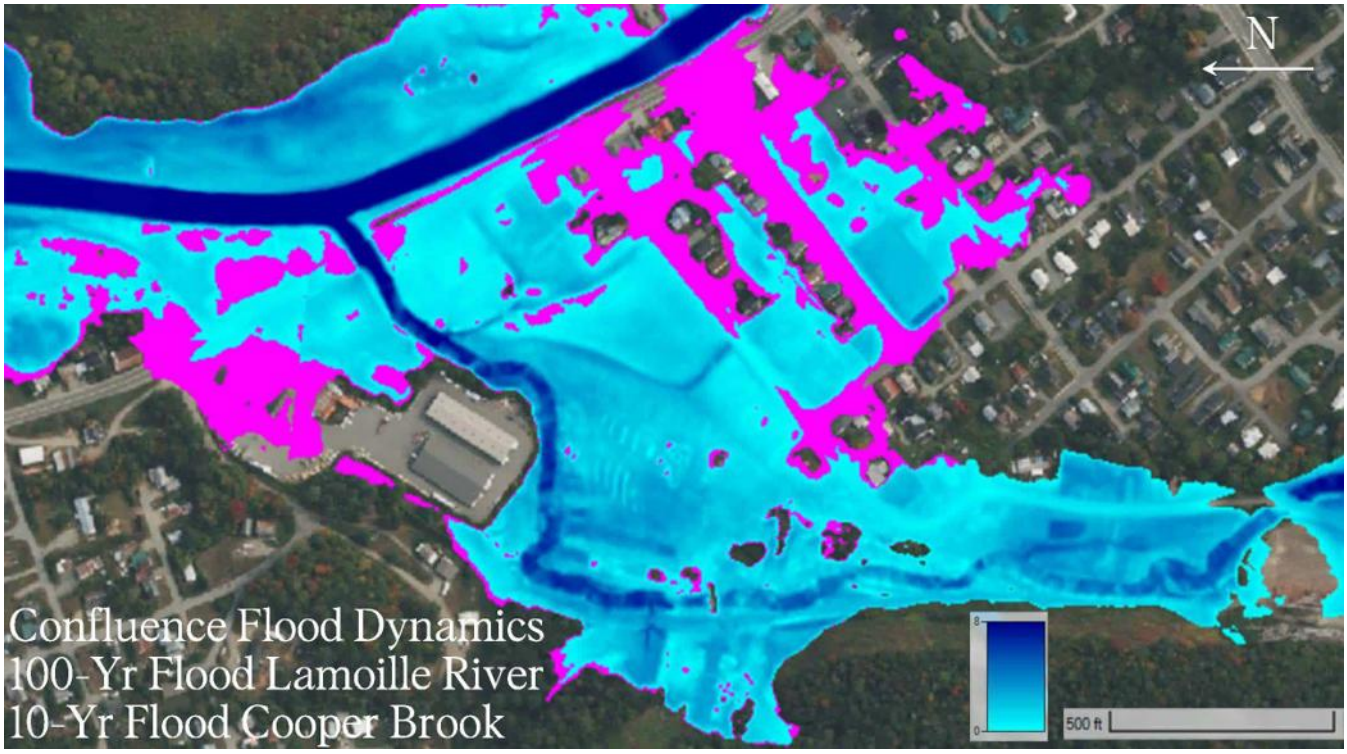
By retaining the full range of alternatives, the Town can build upon the work already completed rather than beginning a new evaluation without the benefit of previous analysis.

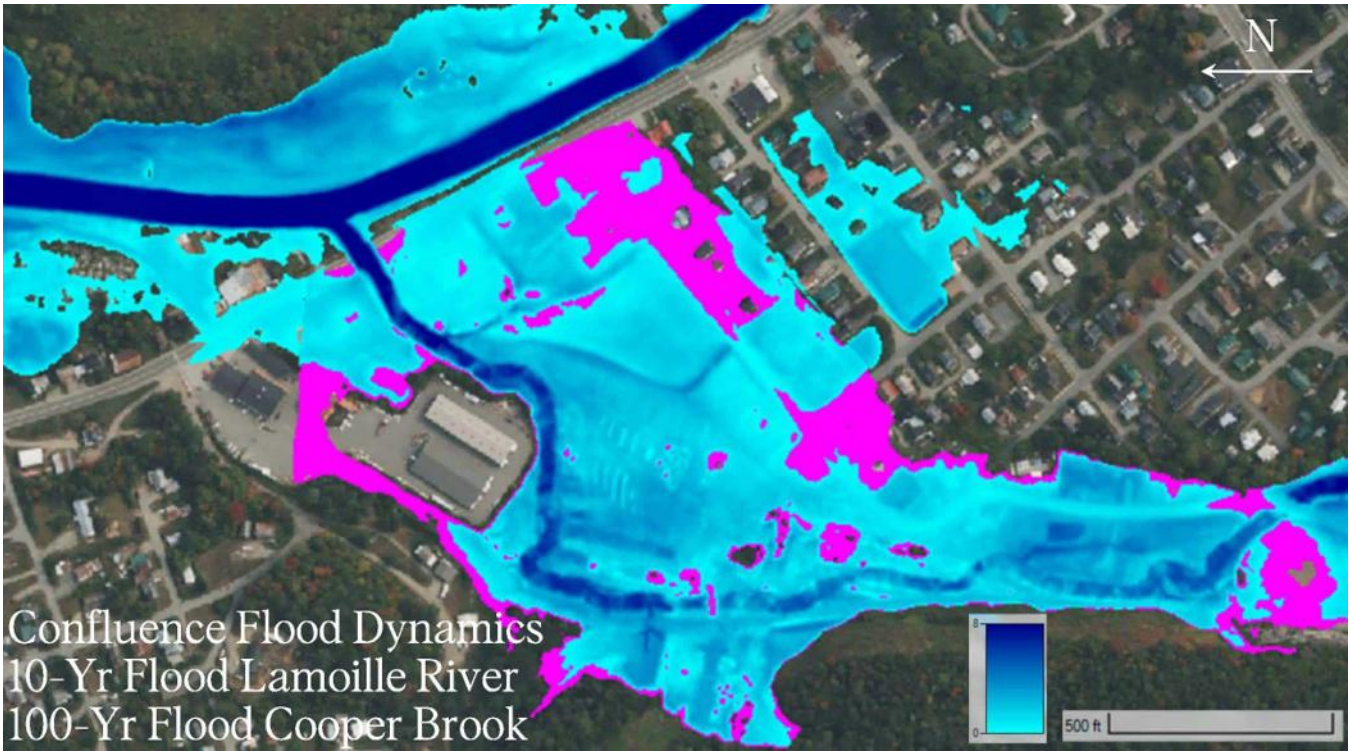



Medium Flood Depth Mapping (50-yr)
N
2.1 ft
2.1 ft
1.2 ft
1.2 ft
8
0
500 ft


Large Flood Depth Mapping (100-yr)
N
2.3 ft
2.4 ft
1.5 ft
1.5 ft
8
0
500 ft

The presentation materials that follow are included as supporting technical documentation. Chapter 4 summarizes the principal findings, Chapter 7 describes the neighborhood's resilience strategies, and Appendix D provides additional information about the priority projects identified for further development.





Appendix D – Priority Project Profiles

The following project profiles provide additional information about several of the priority resilience investments identified through the Granite Street Historic District planning process. Together, these projects illustrate the layered approach to resilience reflected throughout the plan: reducing vulnerability at individual homes, addressing flood conditions within the neighborhood, and advancing larger projects that influence flooding across the Lamoille River watershed.

Granite Street Culvert and Flood Benching project and the Spring Street Extension Floodplain Restoration project were developed up to the 10% design level with plans and approximate project costs by SLR as part of the technical analysis completed for this planning effort.

Spring Street Floodplain

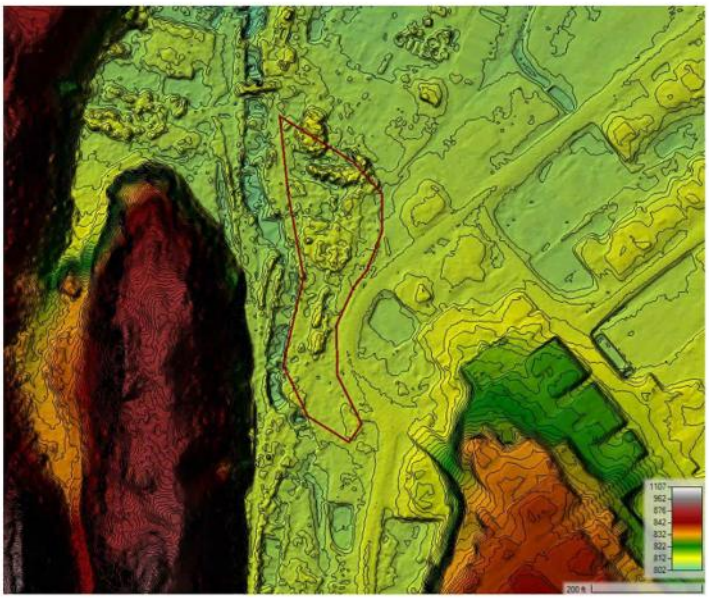
- Narrow point in valley upstream of Atkins Field
- Potential area for floodplain restoration
  - 4.1 acres
  - Up to ~4 feet of cut
- Flood waters begin to enter the neighborhood
- Existing modeling shows the area floods regularly (2 to 10-year flood)

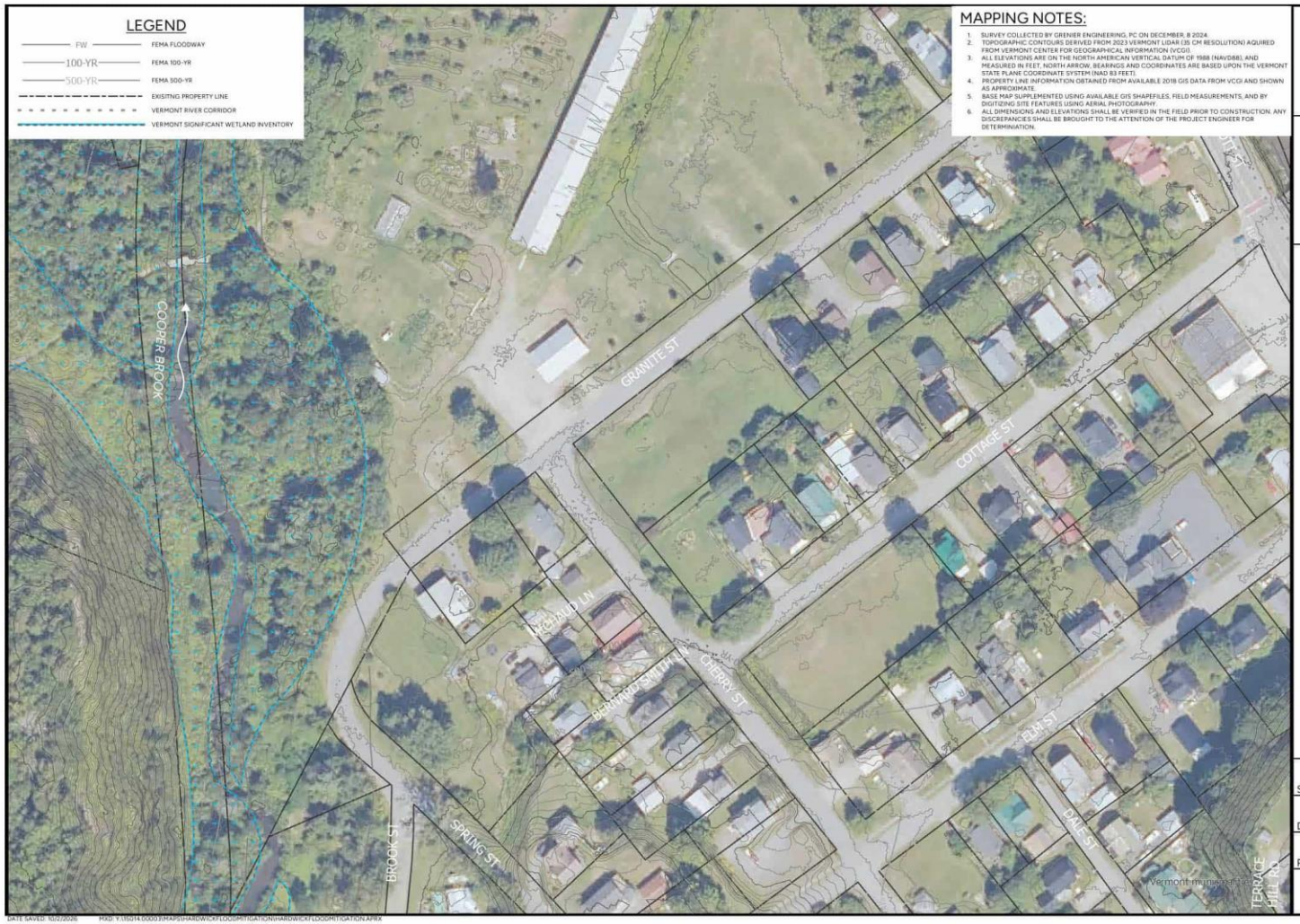


Spring Street Floodplain

Spring Street Floodplain

- Narrow point in valley upstream of Atkins Field
- Potential area for floodplain restoration
  - 4.1 acres
  - Up to ~4 feet of cut
- Flood waters begin to enter the neighborhood
- Existing modeling shows the area floods regularly (2 to 10-year flood)





SLR
1 SOUTH MAIN ST
WATERBURY, VT 05676
802.882.8335

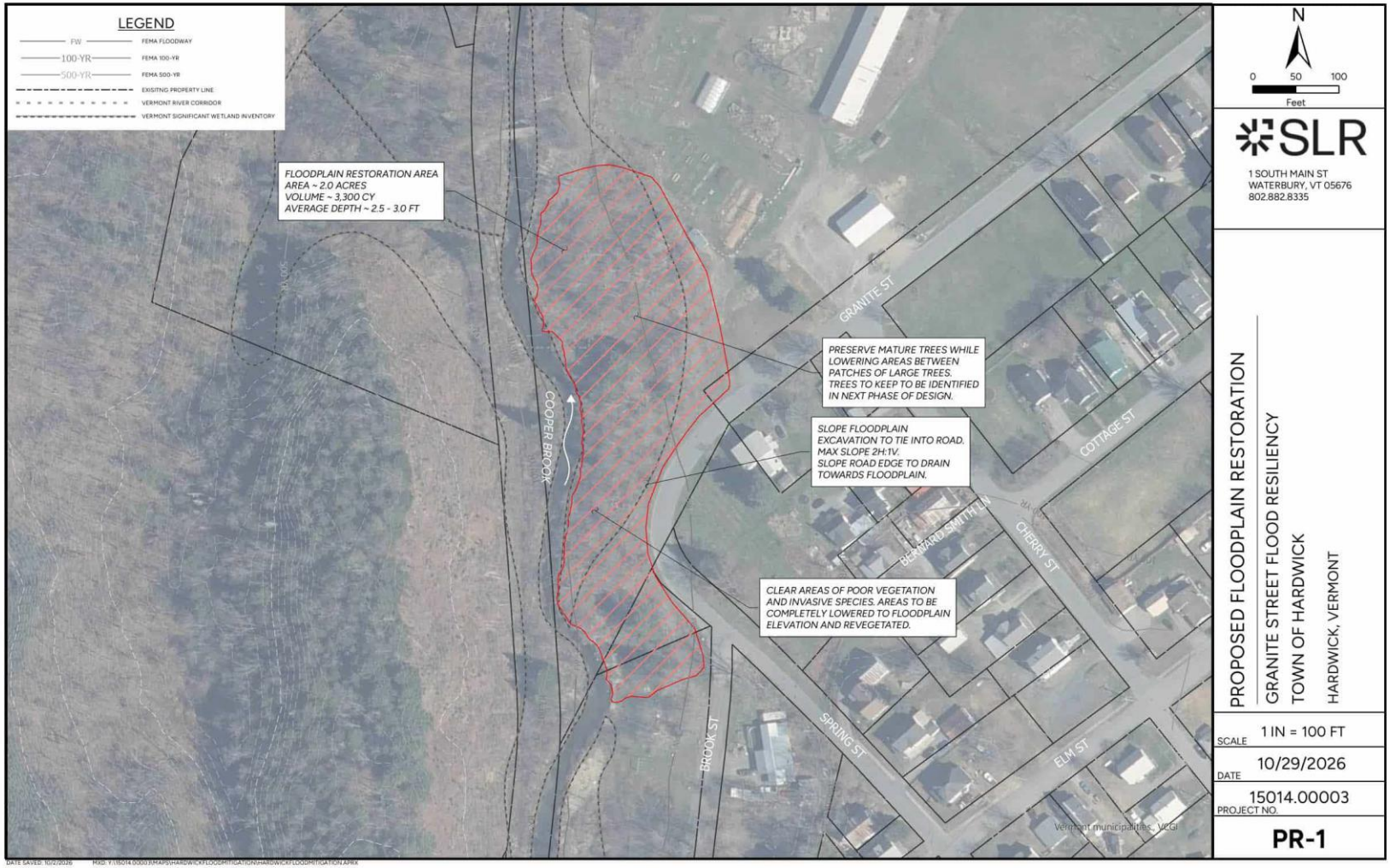
EXISTING CONDITIONS - OVERVIEW

GRANITE STREET FLOOD RESILIENCY
TOWN OF HARDWICK
HARDWICK, VERMONT

SCALE	1 IN = 100 FT
DATE	10/29/2026
PROJECT NO.	15014.00003

EX-1

DATE SAVED: 10/2/2026 MXD: Y:\15014.0000\EMAPS\HARDWICK\FLOODMITIGATION\HARDWICKFLOODMITIGATION.APRX


LEGEND
FW FEMA FLOODWAY
100-YR FEMA 100-YR
500-YR FEMA 500-YR
EXISITNG PROPERTY LINE
VERMONT RIVER CORRIDOR
VERMONT SIGNIFICANT WETLAND INVENTORY
FLOODPLAIN RESTORATION AREA
AREA ~ 2.0 ACRES
VOLUME ~ 3,300 CY
AVERAGE DEPTH ~ 2.5 - 3.0 FT
PRESERVE MATURE TREES WHILE LOWERING AREAS BETWEEN PATCHES OF LARGE TREES. TREES TO KEEP TO BE IDENTIFIED IN NEXT PHASE OF DESIGN.
SLOPE FLOODPLAIN EXCAVATION TO TIE INTO ROAD. MAX SLOPE 2H:1V. SLOPE ROAD EDGE TO DRAIN TOWARDS FLOODPLAIN.
CLEAR AREAS OF POOR VEGETATION AND INVASIVE SPECIES. AREAS TO BE COMPLETELY LOWERED TO FLOODPLAIN ELEVATION AND REVEGETATED.
COOPER BROOK
GRANITE ST
COTTAGE ST
CHERRY ST
BERNARD SMITH LN
BROOK ST
SPRING ST
ELM ST
Vermont municipalities, VCGI
N
0 50 100
Feet
SLR
1 SOUTH MAIN ST
WATERBURY, VT 05676
802.882.8335
PROPOSED FLOODPLAIN RESTORATION
GRANITE STREET FLOOD RESILIENCY
TOWN OF HARDWICK
HARDWICK, VERMONT
SCALE 1 IN = 100 FT
DATE 10/29/2026
PROJECT NO. 15014.00003
PR-1

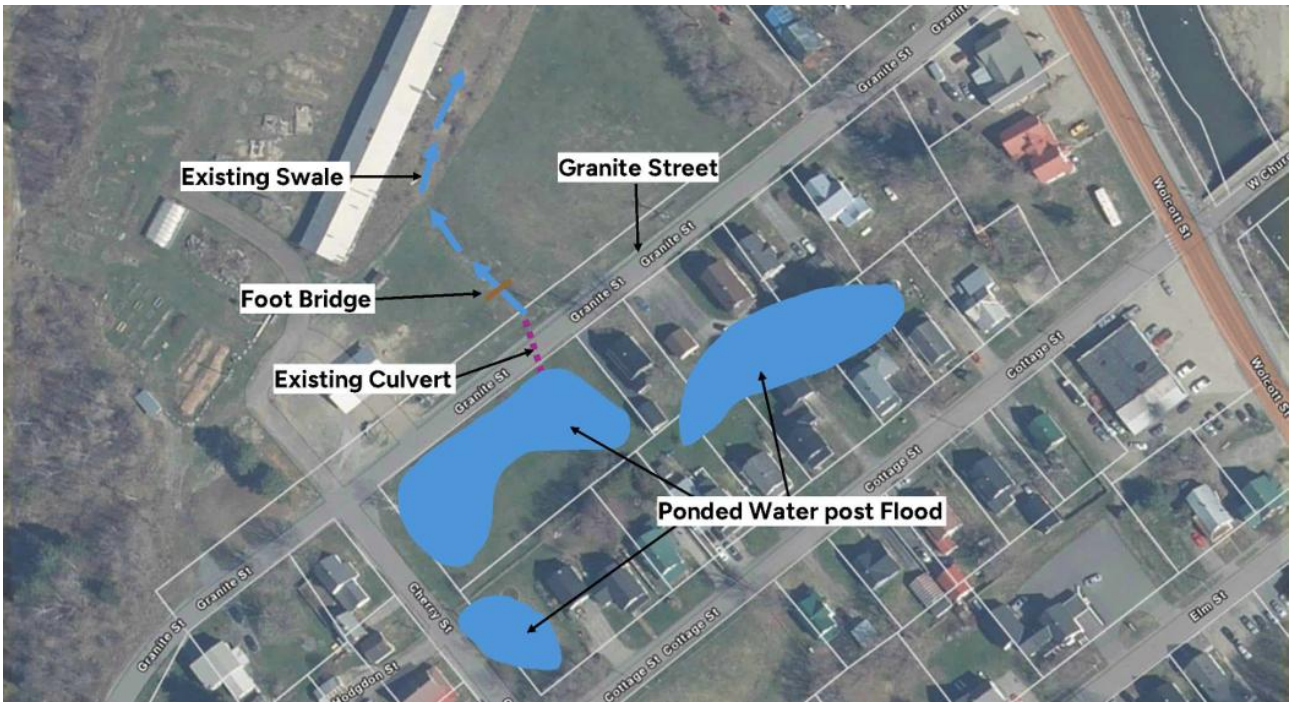
OPINION OF PROBABLE PROJECT COST
TEN PERCENT PLAN
SPRING STREET FLOODPLAIN RESTORATION
Hardwick, Vermont
October 28, 2026
SLR #15014.00003

Description	Unit	Quantity	Unit Price ($)	Amount ($)
SITE PREPARATION				
MOBILIZATION/DEMOBILIZATION	LS	1	10,000	10,000
CONSTRUCTION ACCESS	LS	1	5,000	5,000
SEDIMENT AND EROSION CONTROLS	LS	1	5,000	5,000
TEMPORARY CONSTRUCTION FENCING	LS	1	2,000	2,000
CLEARING AND GRUBBING	LS	1	7,500	7,500
INVASIVE SPECIES HANDLING	LS	1	5,000	5,000
CONSTRUCTION STAKING/SURVEY	LS	1	2,500	2,500
SITE WORK				
EXCAVATION OF FLOODPLAIN AND HAUL	CY	3,300	22	72,600
INSTALLATION OF BANK ARMORING	CY	1,500	65	97,500
RESTORATION OF SITE				
RESTORATION OF ACCESS & STAGING AREA	LS	1	5,000	5,000
FINAL GRADING OF STOCKPILED TOPSOIL	LS	1	5,000	5,000
SEED AND MULCH	LS	1	10,000	10,000
TRANSPLANT SAPLINGS	LS	1	2,500	2,500
PLANT RIPARIAN TREES, SHRUBS, AND LIVE STAKES	LS	1	10,000	10,000
CONSTRUCTION SUBTOTAL				**$ 239,600**
FINAL DESIGN				$ 80,000
PERMITTING				$ 25,000
BID PHASE SERVICES				$ 12,500
CONSTRUCTION PHASE SERVICES (PART-TIME)				$ 30,000
ARCHAEOLOGICAL SERVICES				$ 20,000
MINOR DESIGN ITEMS (10%)				$ 23,960
CONSTRUCTION CONTINGENCY (10%)				$ 23,960
TOTAL				**$ 455,020**

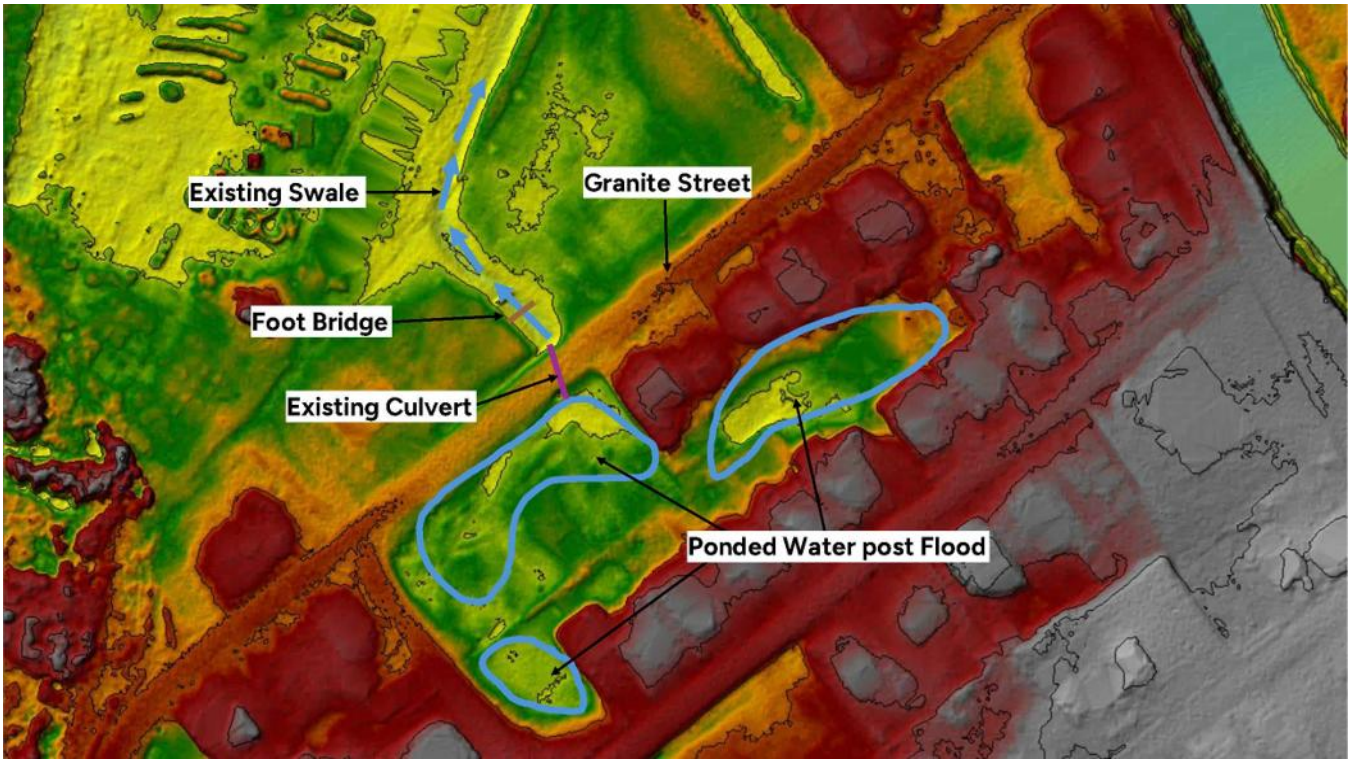
Granite Street Culvert and Flood Benching project and the Spring Street Extension Floodplain Restoration project were developed up to the 10% design level with plans and approximate project costs by SLR as part of the technical analysis completed for this planning effort.

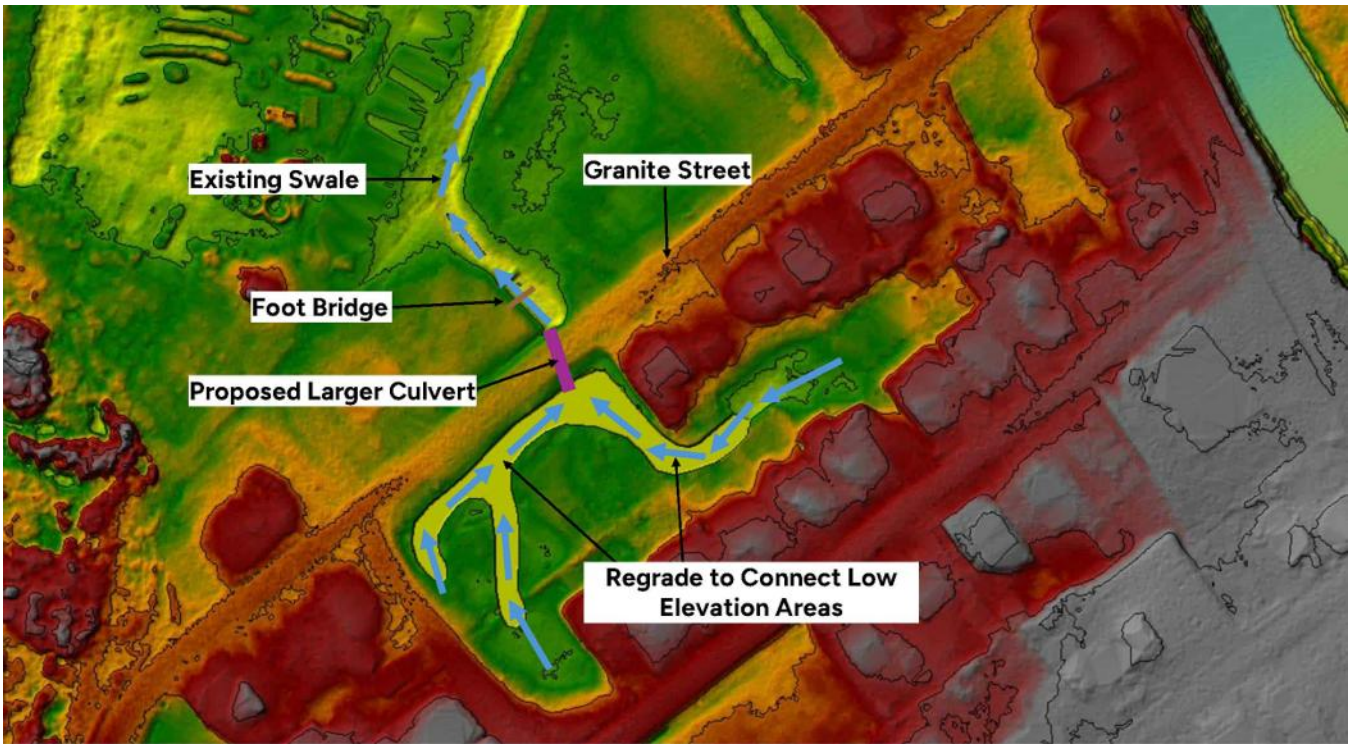
Granite Street Culvert Replacement





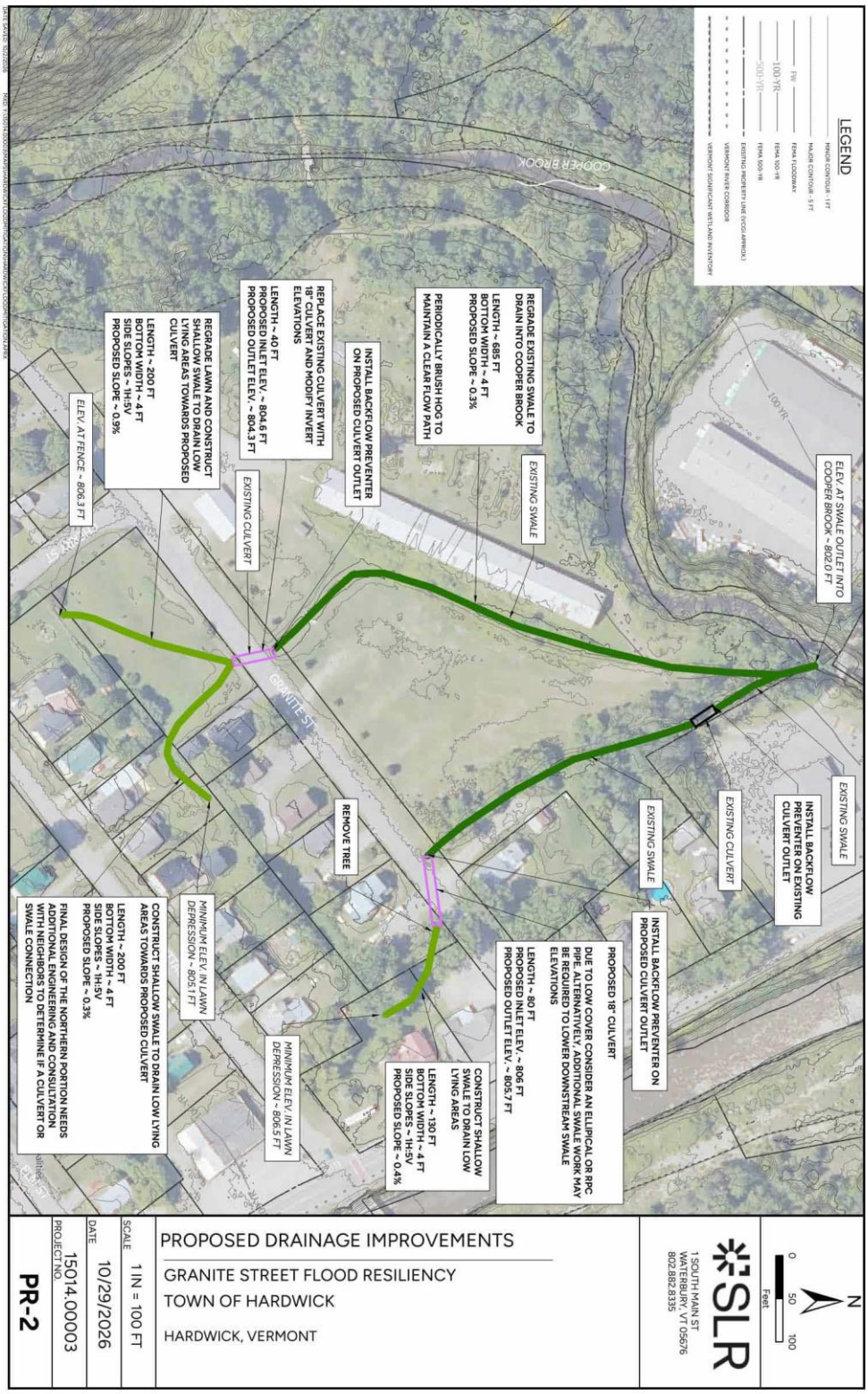
Granite Street Culvert replacement – existing conditions






LEGEND
MINOR CONTOUR - 1 FT
MAJOR CONTOUR - 5 FT
FW FEMA FLOODWAY
100-YR FEMA 100-YR
500-YR FEMA 500-YR
EXISTING PROPERTY LINE
VERMONT RIVER CORRIDOR
VERMONT SIGNIFICANT WETLAND INVENTORY
MAPPING NOTES:
1. TOPOGRAPHIC CONTOURS DERIVED FROM 2023 VERMONT LIDAR (35 CM RESOLUTION) AQUIRED FROM VERMONT CENTER FOR GEOGRAPHICAL INFORMATION (VCGI).
2. ALL ELEVATIONS ARE ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), AND MEASURED IN FEET. NORTH ARROW, BEARINGS AND COORDINATES ARE BASED UPON THE VERMONT STATE PLANE COORDINATE SYSTEM (NAD 83 FEET).
3. PROPERTY LINE INFORMATION OBTAINED FROM AVAILABLE 2018 GIS DATA FROM VCGI AND SHOWN AS APPROXIMATE.
4. BASE MAP SUPPLEMENTED USING AVAILABLE GIS SHAPEFILES, FIELD MEASUREMENTS, AND BY DIGITIZING SITE FEATURES USING AERIAL PHOTOGRAPHY.
5. ALL DIMENSIONS AND ELEVATIONS SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER FOR DETERMINATION.
ELEV. AT SWALE OUTLET INTO COOPER BROOK ~ 802.0 FT
EXISTING SWALE
EXISTING CULVERT
EXISTING SWALE
EXISTING SWALE
COOPER BROOK
WOLCOTT ST
LAMOILLE RIVER
GRANITE ST
MINIMUM ELEV. IN LAWN DEPRESSION ~ 806.5 FT
EXISTING CULVERT
MINIMUM ELEV. IN LAWN DEPRESSION ~ 805.1 FT
ELEV. AT FENCE ~ 806.3 FT
Vermont municipalities
N
0 50 100
Feet
SLR
1 SOUTH MAIN ST
WATERBURY, VT 05676
802.882.8335
EXISTING CONDITIONS - GRANITE ST
GRANITE STREET FLOOD RESILIENCY
TOWN OF HARDWICK
HARDWICK, VERMONT
SCALE 1 IN = 100 FT
DATE 10/29/2026
PROJECT NO. 15014.00003
EX-2

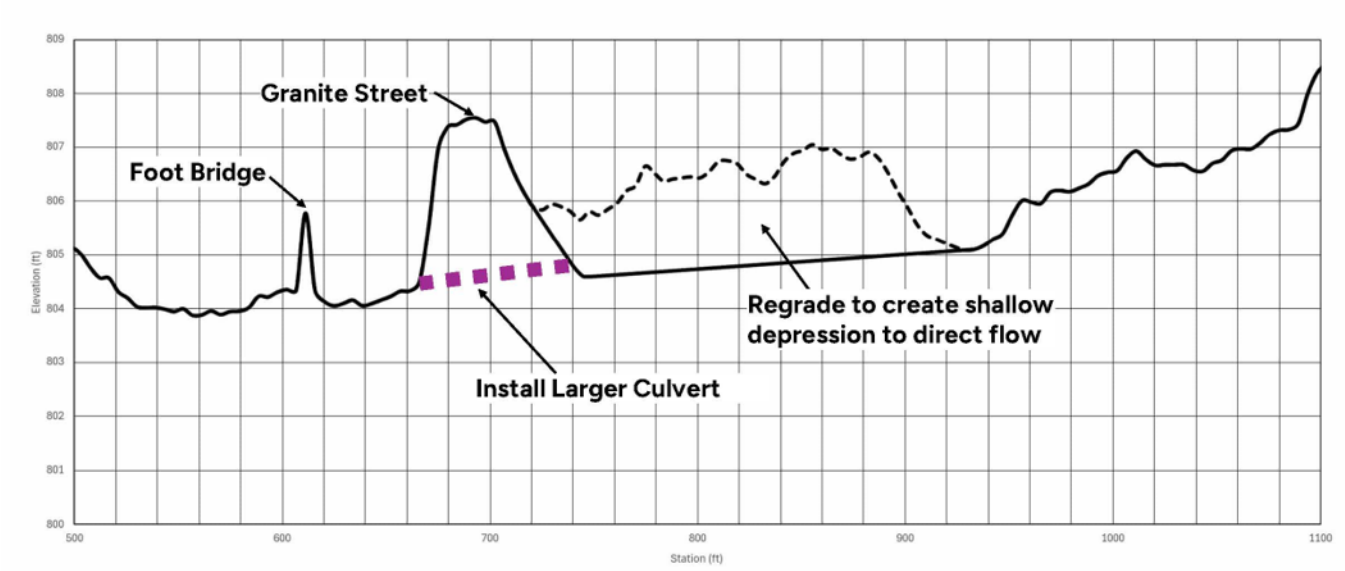
Granite Street Culvert replacement – proposed changes

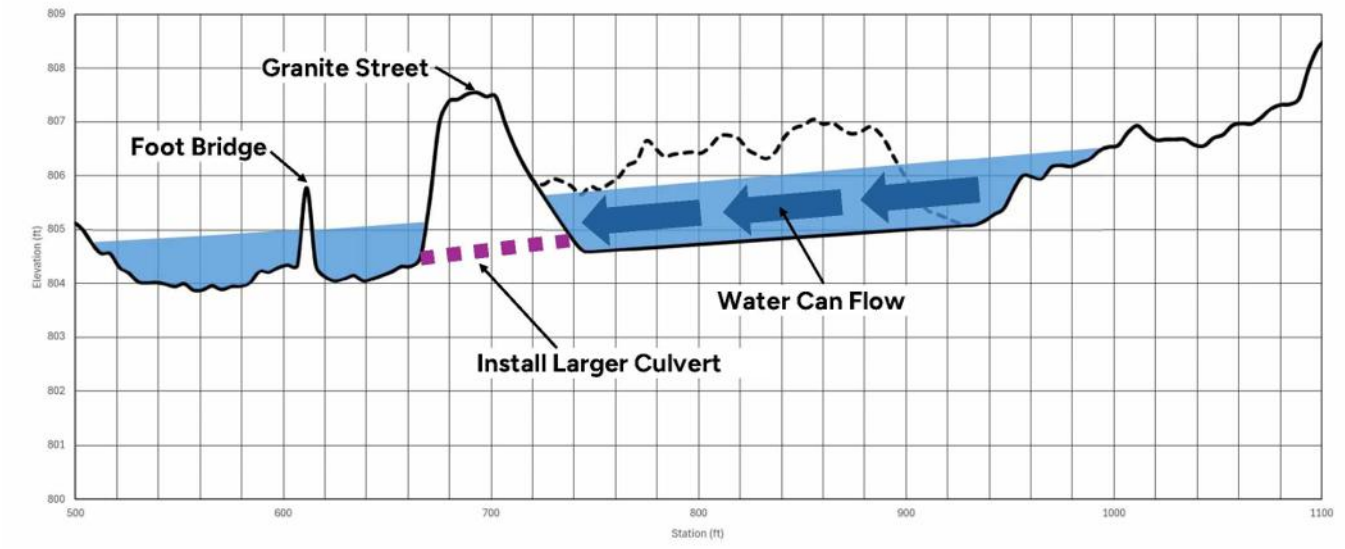


OPINION OF PROBABLE PROJECT COST
TEN PERCENT PLAN
GRANITE STREET DRAINAGE IMPROVEMENTS
Hardwick, Vermont
October 28, 2026
SLR #15014.00003

Description	Unit	Quantity	Unit Price ($)	Amount ($)
SITE PREPARATION				
MOBILIZATION/DEMOBILIZATION	LS	1	10,000	10,000
MAINTENANCE OF EPSC PLAN	LS	1	2,000	2,000
SEDIMENT AND EROSION CONTROLS	LS	1	2,000	2,000
TEMPORARY CONSTRUCTION FENCING	LS	1	1,000	1,000
CLEARING AND GRUBBING	LS	1	2,500	2,500
INVASIVE SPECIES HANDLING	LS	1	2,000	2,000
CONSTRUCTION STAKING/SURVEY	LS	1	1,000	1,000
SITE WORK				
TRENCH EXCAVATION OF EARTH	CY	40	50	2,000
18" CPEP (SL)	LF	120	85	10,200
18" BACKFLOW PREVENTER	EA	3	475	1,425
MARSHALL BITUMINOUS CONCRETE PAVEMENT	TN	1	225	113
SUBBASE OF DENSE GRADED CRUSHED STONE	CY	9	45	405
SUBBASE OF GRAVEL	CY	24	40	960
SWALE EXCAVATION AND GRADING	CY	300	40	12,000
RESTORATION OF SITE				
RESTORATION OF ACCESS & STAGING AREA	LS	1	5,000	5,000
SEED AND MULCH	LS	1	10,000	10,000
CONSTRUCTION SUBTOTAL				**$ 62,603**
FINAL DESIGN				$ 30,000
PERMITTING				$ 15,000
BID PHASE SERVICES				$ 10,000
CONSTRUCTION PHASE SERVICES (PART-TIME)				$ 20,000
ARCHAEOLOGICAL SERVICES				$ 20,000
MINOR DESIGN ITEMS (10%)				$ 6,260
CONSTRUCTION CONTINGENCY (10%)				$ 6,260
TOTAL				**$ 170,123**

Granite Street Culvert Replacement - results





Residential Utility Elevation Program

The Residential Utility Elevation Program addresses one of the most common and costly consequences of flooding within the Granite Street Historic District: damage to furnaces, water heaters, electrical panels, and other essential building systems located in flood-prone basements.

Neighborhood residents identified utility protection as a high priority during the planning process. Many homes within the district were constructed before modern floodplain standards and have critical mechanical and electrical systems below expected flood elevations. Damage to these systems can make a home uninhabitable even when the building itself remains structurally sound, extending displacement and increasing recovery costs. Reliable electrical service is also particularly important for households that depend on sump pumps and other electrically powered equipment during flood events.

The Town of Hardwick secured approximately $700,000 through the State of Vermont's Community Resilience and Disaster Mitigation Fund to establish a residential utility elevation program. Eleven Granite Street households enrolled in the program. The program is intended to provide property-specific evaluation and design followed by elevation or relocation of vulnerable utilities where feasible.

The program represents an important shift from repeatedly repairing damaged equipment after floods toward reducing vulnerability before the next event. It also responds directly to residents' desire for practical mitigation measures that can allow them to remain in their homes. Utility elevation was among the highest-ranked household mitigation measures in the neighborhood survey.

Utility elevation will not eliminate flood risk to participating properties, nor will the same approach be appropriate for every building. It is one component of a broader property-level mitigation strategy that may also include backflow prevention, basement improvements, flood-damage-resistant materials, flood openings, drainage improvements, backup power, or other measures appropriate to individual properties and historic buildings.

The program also provides an opportunity to learn from implementation. As participating homes are evaluated and improvements completed, the Town and its partners can better understand the challenges associated with mitigating older flood-prone housing, the costs and benefits of different approaches, and opportunities to expand technical or financial assistance to additional homeowners.

Current Status: Eleven households enrolled; implementation underway.

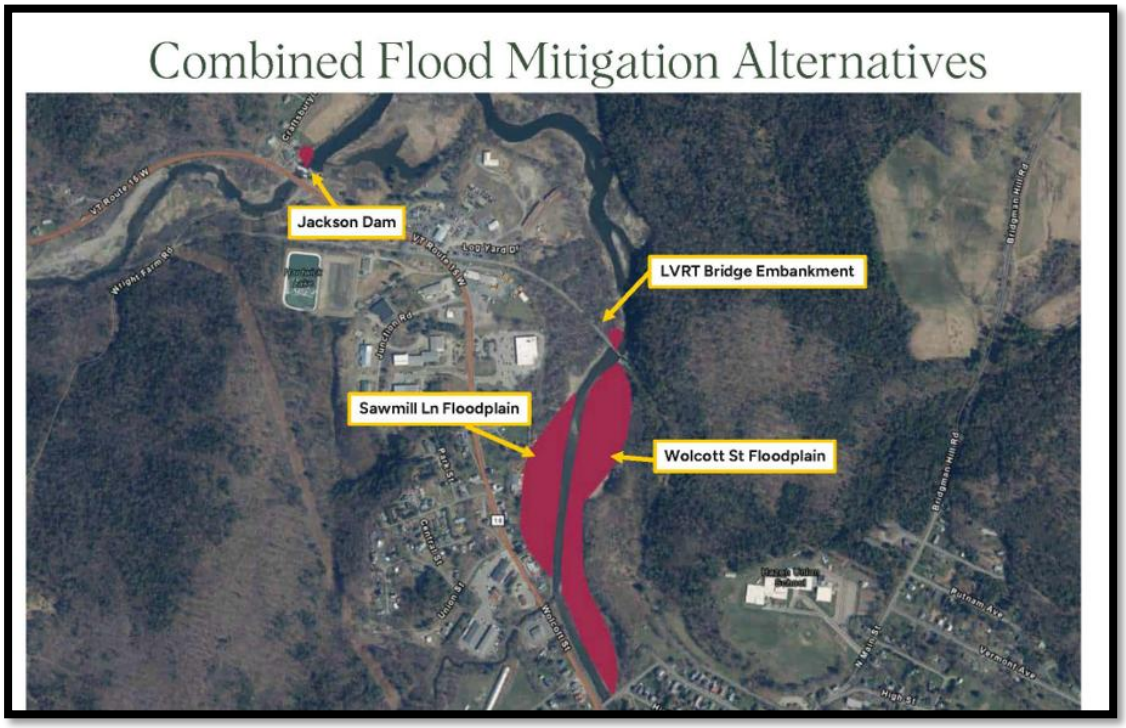
Lead: Town of Hardwick

Funding: Vermont Community Resilience and Disaster Mitigation Fund

Resilience Benefits: Reduced damage to essential building systems; shorter recovery and displacement following floods; improved household safety and habitability; and increased ability for residents to remain in existing homes.

Lamoille River Watershed Projects

Flooding within the Granite Street Historic District cannot be addressed entirely within the boundaries of the neighborhood. Cooper Brook responds rapidly to intense rainfall, while high water levels in the Lamoille River can create backwater conditions that limit the ability of Cooper Brook and neighborhood drainage systems to discharge. As a result, flood conditions within Granite Street are influenced by both local conditions and processes occurring throughout the broader watershed.



The neighborhood resilience strategy therefore includes several larger projects underway or under consideration elsewhere in Hardwick. These projects are not Granite Street projects in the same sense as the culvert improvements, Spring Street Extension floodplain restoration, or residential utility elevation program. Each has its own planning, engineering, funding, permitting, and public process. They are included here because their potential effects on floodplain function, river conveyance, flood storage, and watershed conditions are relevant to long-term flood resilience within the neighborhood.



The principal watershed-scale projects currently identified include:

Jackson Dam. The Town and its partners are evaluating the future of Jackson Dam on the Lamoille River. Following completion of feasibility and hydraulic modeling, the project is advancing into additional design and evaluation. Because the dam influences conditions on the Lamoille River upstream of the Granite Street neighborhood, its future is one component of Hardwick's larger watershed resilience work.



Jackson Dam



Problems

- Barrier in River

Possible Solutions

- Dam removal
- Permanent drawdown



Lamoille Valley Rail Trail Embankment. The elevated LVRT embankment crosses the Lamoille River floodplain and influences how floodwater moves through this portion of Hardwick. Potential modifications to portions of the embankment are being explored as part of broader efforts to improve floodplain function and reduce hydraulic constraints.

LVRT Embankment





Problems

- LVRT Bridge is a constriction and backs up flow
- Embankment fully blocks floodplain

Possible Solutions

- Lower Embankment / Planned Overflow
- Widen Bridge

Confluence Floodplain Restoration. The Town is advancing floodplain restoration on municipally owned property near the confluence of Cooper Brook and the Lamoille River. The project is intended to

Wolcott Street and Sawmill Lane Floodplains





Problems

- Sediment deposition
- Inundation flooding
- Possible buyouts

Possible Solutions

- Floodplain restoration opportunity

restore floodplain function and create additional space for floodwaters in an area directly connected to the river system affecting Granite Street.



Sawmill Park Floodplain Restoration. Following voluntary acquisition of flood-prone properties along Sawmill Lane, the Town is considering future floodplain restoration and open-space opportunities as additional properties become available. The area provides an opportunity to restore floodplain function while transitioning repeatedly flooded land away from vulnerable residential use.

Together, these projects represent a watershed-scale complement to the neighborhood investments identified in this plan. The Granite Street strategy does not depend upon any single watershed project eliminating flood risk. Rather, the intent is to pursue multiple opportunities to restore floodplain function, address hydraulic constraints, reduce vulnerability, and give water more space where feasible. The plan similarly combines these larger investments with neighborhood infrastructure, property-level mitigation, preparedness, and emergency communication.

The projects are at different stages of development and will continue to evolve as engineering, environmental review, funding, landowner coordination, and public processes advance. Their inclusion in this plan should therefore be understood as recognition of their relationship to Granite Street's long-term resilience rather than as endorsement of a particular final design or outcome.

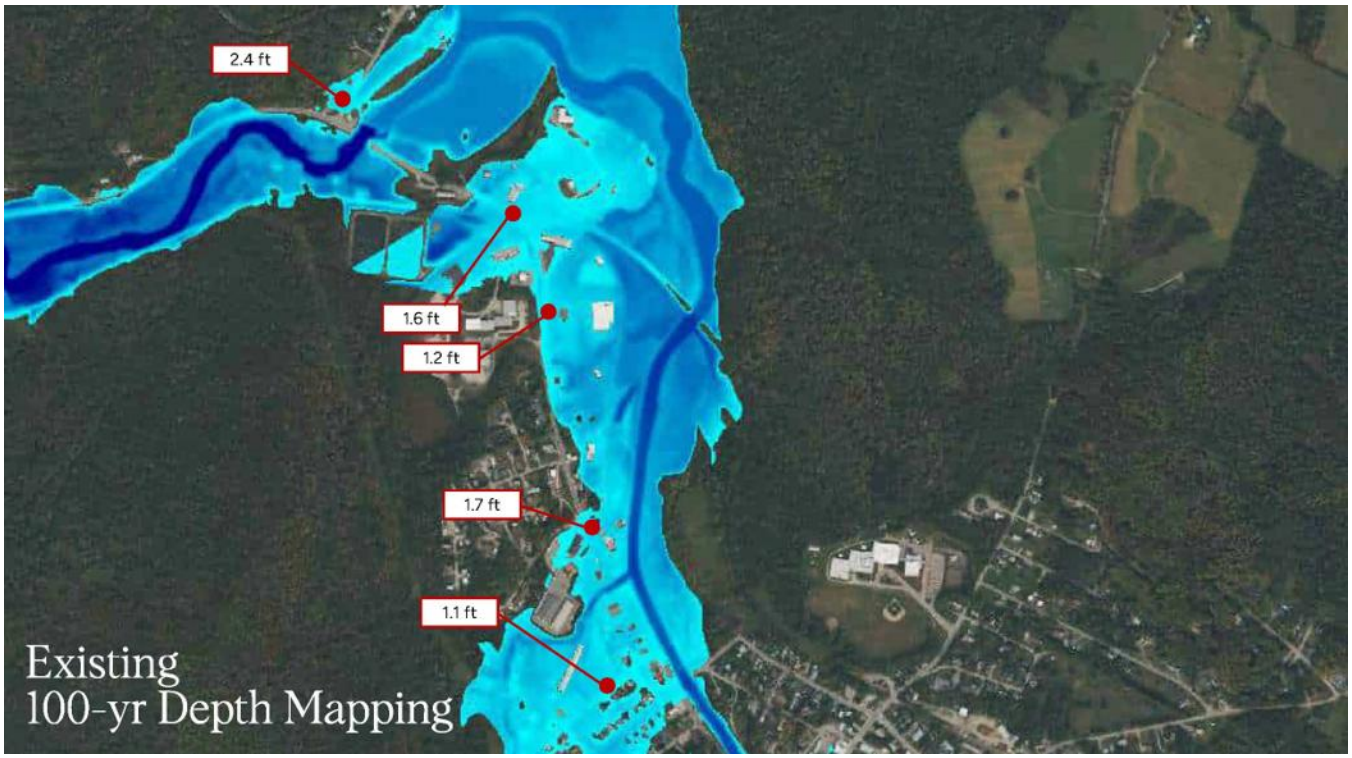
Current Status: Multiple projects in feasibility, design, planning, environmental review, property acquisition, or implementation.

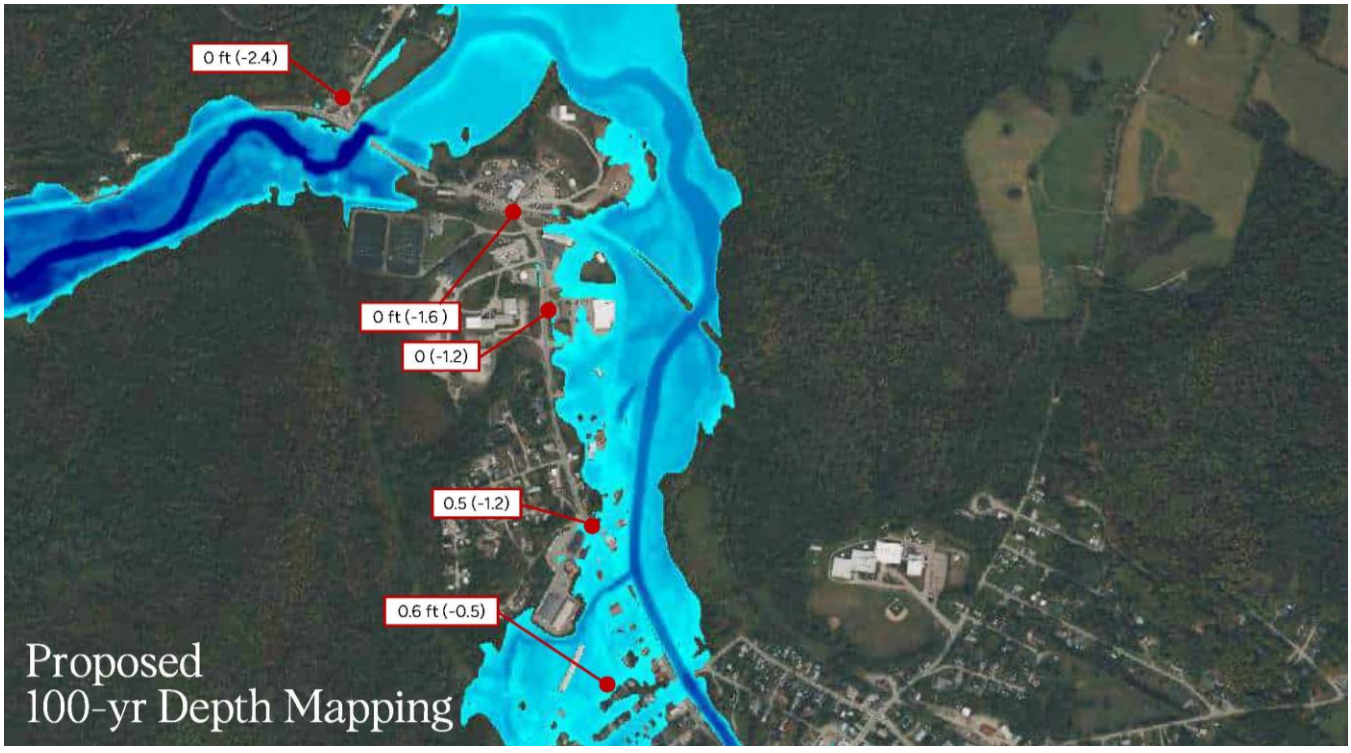
Lead: Town of Hardwick and project-specific partners.

Potential Funding: Project-specific state and federal funding sources.

Resilience Benefits: Improved floodplain function and flood storage; reduction of hydraulic constraints where feasible; transition of repeatedly flooded properties to compatible open-space uses; and coordinated flood-risk reduction at the neighborhood and watershed scales.

Depth Mapping with the Lamoille River projects

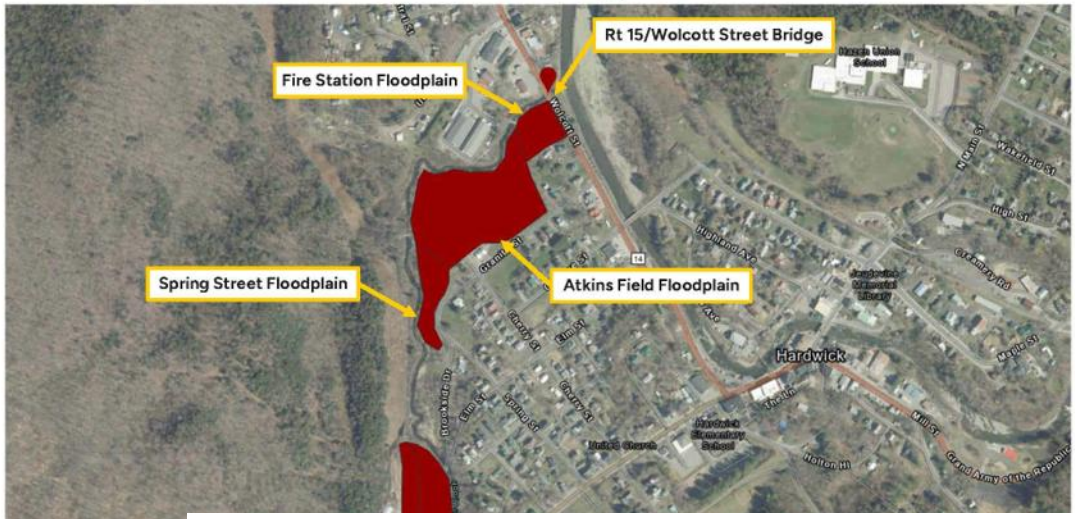




Appendix E – Flood Mitigation Alternatives Evaluated

As part of the technical analysis supporting development of this plan, SLR evaluated a range of potential flood mitigation opportunities within the Cooper Brook and Lamoille River systems. Not all concepts were selected for advancement through this planning process. The following materials are retained to document the alternatives considered and to preserve this technical work for future planning, engineering, and funding discussions. Inclusion in this appendix does not identify an alternative as a current town priority or recommended project.

Cooper Brook Flood Mitigation Alternatives



Davis Sawmill Floodplain

- Upstream of Granite Street neighborhood
- Potential area for flood benches or floodplain restoration
  - 2.5 – 4.5 acres
- The Brook Road bridge to access the sawmill is a constriction
- Existing modeling shows the area floods regularly (2 to 10-year flood)



Route 15/Wolcott Street Bridge

Rt 15/Wolcott Street Bridge



Problems

- Small floods cannot fit into bridge opening

Recommended Solutions

- Elevate bridge low chord
- Expand bridge opening width



Rt 15/Wolcott Street Bridge

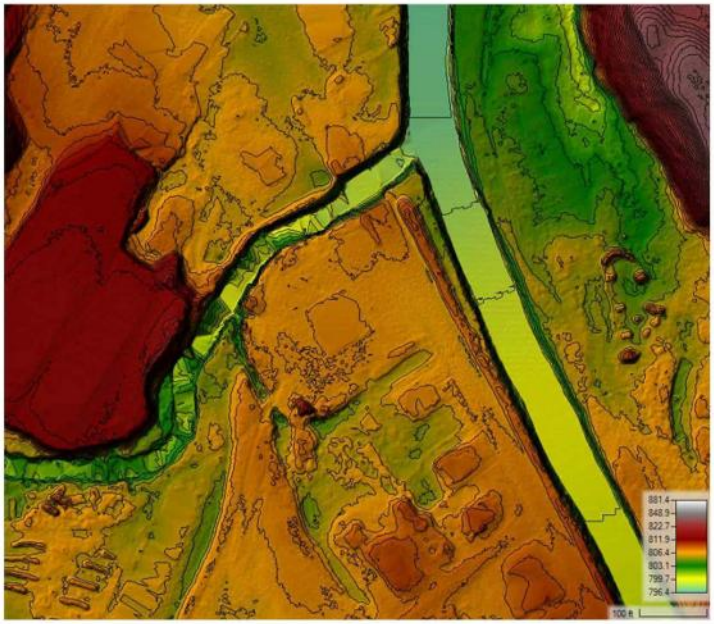


Problems

- Small floods cannot fit into bridge opening

Recommended Solutions

- Elevate bridge low chord
- Expand bridge opening width



Hardwick Fire Station

Hardwick Fire Station



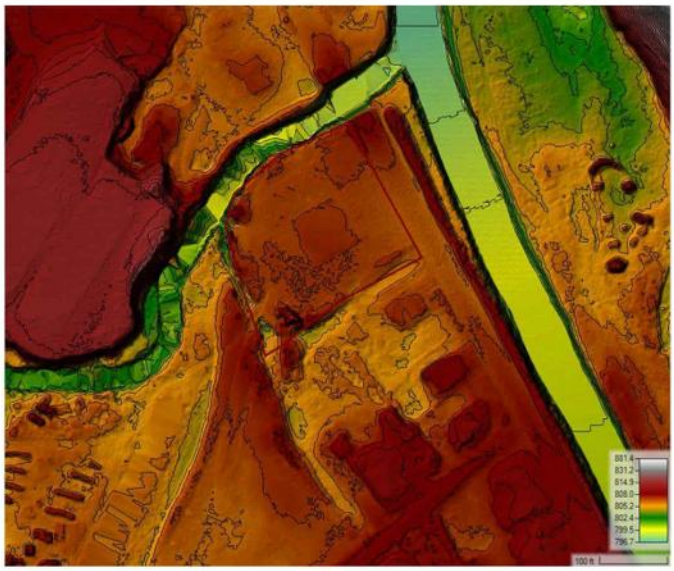
- Potential area for floodplain restoration if Fire Station is relocated
  - 1.2 acres
  - Up to ~4 feet of cut



Hardwick Fire Station



- Potential area for floodplain restoration if Fire Station is relocated
  - 1.2 acres
  - Up to ~4 feet of cut



Atkins Field Floodplain

Atkins Field Floodplain

- Potential area for floodplain restoration
  - 3.4 acres
  - Up to ~4.5 feet of cut
- Berm along river channel on upstream portion
- Existing modeling shows the area floods regularly (2 to 10-year flood)



Atkins Field Floodplain

- Potential area for floodplain restoration
  - 3.4 acres
  - Up to ~4.5 feet of cut
- Berm along river channel on upstream portion
- Existing modeling shows the area floods regularly (2 to 10-year flood)



Appendix F – Funding Opportunities and Implementation Matrix

Implementation of the Granite Street Historic District Flood and Community Resilience Plan will require a combination of municipal resources, state and federal grants, technical assistance, community partnerships, and continued coordination with larger Town and watershed projects.

Funding programs change over time, and eligibility will depend on project design, ownership, benefit-cost requirements, available appropriations, and other program-specific criteria. The following matrix is therefore intended as a starting point for implementation rather than a definitive list of funding sources.

Whenever possible, the Town should seek opportunities to coordinate related projects and funding applications. Some actions may be appropriate for stand-alone grants, while others may advance more effectively as components of larger municipal, emergency management, stormwater, housing, or watershed initiatives.

Priority Action	Current Status	Potential Funding / Support	Implementation Considerations	Timeframe
Neighborhood Warning Siren	Portable unit operational; permanent installation at Atkins Field pending	Municipal funds; emergency management funding; private/community support where appropriate	Complete permanent installation; establish operation, testing, maintenance, and public education procedures	0–2 years
Buffalo Mountain Town Forest Coordination	Coordinate future Town Forest planning and activities with neighborhood flood-resilience goals, recognizing the Town Forest's location within the same watershed as the Granite Street Historic District.	Town of Hardwick; Buffalo Mountain Town Forest Committee; Granite Street residents	Primarily staff and volunteer coordination; incorporate resilience considerations into future Town Forest planning and project development. Funding needs, if any, would depend on future proposed activities.	0-2 years; ongoing

Priority Action	Current Status	Potential Funding / Support	Implementation Considerations	Timeframe
Residential Utility Elevation Program	Underway; 11 households enrolled	Vermont Community Resilience and Disaster Mitigation Fund; future state or federal mitigation funding	Complete property assessments, design, and construction; document lessons and costs to inform future residential mitigation programs	0–2 years
Residential Flood Mitigation Education & Technical Assistance	Additional assistance needed beyond utility elevation	State and federal mitigation programs; technical assistance programs; community and nonprofit partners	Provide information on mitigation appropriate for older and historic homes; connect homeowners with technical and financial resources	2–5 years
Emergency Communications Volunteers	Operational at the town level	Municipal resources; emergency management grants; volunteer support	Maintain training, equipment, volunteer recruitment, and integration with Town emergency operations	Ongoing
Emergency Notification Enrollment	Ongoing	Municipal resources; existing VT-Alert and TextMyGov systems	Continue outreach and assist residents who need help enrolling	Ongoing
Community Preparedness Education & Go Bag Workshops	Ongoing	Municipal resources; emergency management grants; community partners	Continue accessible neighborhood-based education and incorporate lessons from future flood events	Annual/Ongoing
Neighborhood Flood Traffic Management & Road Closure Protocol	Protocol to be developed; traffic calming/enforcement can be used during flood events in the interim.	Municipal resources; emergency management planning support	Establish road-closure locations, barricade procedures, responsibilities, communications, and protocols for	0–2 years

Priority Action	Current Status	Potential Funding / Support	Implementation Considerations	Timeframe
			limiting vehicle wakes during floods	
Cottage Street/Lower Cherry Street Bioretention Area	Restoration and annual maintenance needed	Municipal funds; state stormwater programs and grants	Restore function and establish routine inspection and maintenance responsibilities	0–2 years
Granite Street Culvert Improvements & Flood Benching	Conceptual design complete; additional engineering and funding needed	State and federal hazard mitigation, transportation, watershed, and resilience programs	Advance engineering and permitting; coordinate with other Granite Street drainage and floodplain improvements	2–5 years
Spring Street Extension Floodplain Restoration	Conceptual design complete; additional engineering and funding needed	State and federal floodplain restoration, hazard mitigation, watershed, and resilience programs	Advance engineering, permitting, landowner coordination if necessary, and funding strategy	2–5 years
Neighborhood Stormwater Assessment	Needs completion	State stormwater funding; Municipal Planning Grant or similar planning resources	Evaluate drainage deficiencies and opportunities throughout the neighborhood; use findings to establish future priorities	2–5 years
Stormwater Master Plan Update	Future municipal planning effort	Municipal Planning Grant; state stormwater planning assistance; municipal resources	Incorporate Granite Street findings and update the Town's 2018 Stormwater Master Plan	2–5 years
Neighborhood Stormwater Improvements	To be identified and prioritized through assessment	State and federal stormwater, infrastructure, and resilience programs	Prioritize projects following neighborhood assessment and coordinate with	2–5 years

Priority Action	Current Status	Potential Funding / Support	Implementation Considerations	Timeframe
			culvert and floodplain projects	
Electrical Resilience for Homes Dependent on Sump Pumps	Evaluation needed	Utility programs; state resilience or energy programs; future grant opportunities	Evaluate backup power and other approaches; determine whether neighborhood-scale or individual-property solutions are most practical	2–5 years
Community Preparedness & Muck and Gut Training	Initial training planned; continued capacity building needed	Emergency management grants; municipal resources; nonprofit and community partners	Maintain trained local volunteers and periodically refresh skills and safety procedures	Ongoing
Jackson Dam Project	Feasibility complete; advancing toward design	Project-specific state and federal watershed, hazard mitigation, infrastructure, and resilience funding	Separate project with its own engineering, environmental review, public process, permitting, and funding strategy	Long-term / Project dependent
LVRT Embankment Modifications	Concept identified through hydraulic modeling	State and federal transportation, hazard mitigation, and resilience funding	Requires coordination with VTrans and other project partners; additional engineering and evaluation required	Long-term / Project dependent
Confluence Floodplain Restoration	Planning and environmental review underway	Existing CDBG-DR funding; additional project-specific funding if necessary	Coordinate implementation with related Cooper Brook and Lamoille River resilience work	Near-term / Project dependent
Sawmill Park Floodplain Restoration	Property acquisition and planning underway	State and federal hazard mitigation, floodplain	Future restoration depends on voluntary property	Long-term / Project dependent

Priority Action	Current Status	Potential Funding / Support	Implementation Considerations	Timeframe
		restoration, and watershed funding	acquisition and development of an appropriate reuse/restoration concept	
Plan Review and Update	Annual implementation review	Municipal resources	Update project status, funding opportunities, responsibilities, and timelines; incorporate relevant actions into other municipal plans and programs	Annual

Funding Strategy

The Town should approach funding as an ongoing implementation process rather than waiting for a single funding source capable of implementing the entire plan. Different actions are likely to require different funding pathways, and projects may advance in phases as planning, engineering, permitting, and construction funding become available.

Priority should be given to maintaining projects in a state of readiness whenever practical. Conceptual designs, cost estimates, documented community support, preliminary permitting information, and clearly identified project benefits can allow the Town to respond more quickly when appropriate funding opportunities become available.

The Town should also continue looking for opportunities to combine funding sources and coordinate Granite Street investments with broader municipal projects. For example, stormwater work may advance through stormwater planning programs, residential mitigation through housing or hazard mitigation resources, preparedness through emergency management programs, and larger floodplain projects through watershed, infrastructure, or disaster-recovery funding.

Maintaining the Matrix

This matrix should be reviewed as part of the annual implementation review described in Chapter 9. Funding sources should be added, removed, or updated as programs change, and project status should be revised as actions move from planning to design, funding, construction, and completion.

The purpose of the matrix is not to predict exactly how each project will be funded. It is to maintain a clear connection between the priorities identified by residents and the practical work necessary to move those priorities toward implementation.

Appendix G – Municipal Planning Grant Deliverables Crosswalk

The Granite Street Historic District Flood and Community Resilience Plan was developed with support from the Vermont Municipal Planning Grant Program. The planning process combined community engagement, technical analysis, identification of resilience strategies, and implementation planning to develop a practical framework for reducing flood risk and strengthening neighborhood resilience.

The following crosswalk identifies where the principal products of the Municipal Planning Grant planning process are incorporated into the final plan.

Planning Component / Deliverable	Where Addressed in Final Plan	Key Products / Outcomes
Neighborhood Conditions and Existing Context	Chapter 3 – The Granite Street Historic District Neighborhood	Neighborhood history and development; housing and population characteristics; existing strengths; community assets; neighborhood values
Community Engagement	Chapter 2 – Survey Findings; Chapter 6 – Community Vision; Appendix A – Community Survey Analysis; Appendix B – Community Engagement Summary	Resident survey; neighborhood meetings and meals; Steering Committee discussions; workshops; Atkins Neighborhood Conversations; resident priorities and community vision
Flood Risk and Vulnerability Assessment	Chapter 4 – Flood Risks and Challenges; Appendix C – Maps and Technical Resources	Flood history; Cooper Brook flooding; Lamoille River backwater; stormwater and drainage; transportation and access; utility vulnerability; impacts on homes and residents; future climate considerations
Community Assets and Capacity	Chapter 3 – Existing Strengths and Community Assets; Chapter 5 – Community Assets, Preparedness, and Capacity	Neighborhood relationships; community facilities; emergency preparedness systems; local knowledge; volunteer capacity; community leadership
Technical Flood Analysis	Chapter 4; Appendix C – Maps and Technical Resources; SLR technical materials	Hydraulic modeling; evaluation of neighborhood drainage and flood conditions; identification and evaluation of potential mitigation opportunities
Community Resilience Strategy	Chapter 6 – Community Vision; Chapter 7 – Resilience Strategy	Community vision and three resilience goals: Prepare, Protect, and Recover and Adapt
Property-Level Resilience Strategies	Chapters 4 and 7; Appendix D – Priority Project Profiles	Residential Utility Elevation Program; homeowner mitigation strategies; electrical

Planning Component / Deliverable	Where Addressed in Final Plan	Key Products / Outcomes
		resilience; technical assistance and education
Neighborhood-Scale Flood Mitigation Projects	Chapter 7; Chapter 8 – Priority Action Plan; Appendix D – Priority Project Profiles	Granite Street culvert improvements and flood benching; Spring Street Extension floodplain restoration; neighborhood stormwater improvements
Watershed-Scale Resilience Strategies	Chapters 4 and 7; Appendix D – Priority Project Profiles	Relationship of neighborhood flood risk to the larger Lamoille River watershed; Jackson Dam; LVRT embankment; Confluence Floodplain Restoration; Sawmill Park
Emergency Preparedness and Community Capacity	Chapters 5 and 7; Chapter 8 – Priority Action Plan	Neighborhood warning siren; Emergency Communications Volunteers; emergency notification enrollment; Go Bag education; Muck and Gut training; neighborhood support systems
Priority Actions and Implementation Roadmap	Chapter 8 – Priority Action Plan	Immediate (0–2 year), near-term (2–5 year), and long-term (5+ year) actions; current project status; lead organizations; partners; funding pathways; implementation timelines
Funding and Implementation Strategy	Chapter 8; Appendix E – Funding Opportunities and Implementation Matrix	Potential funding pathways; implementation considerations; project readiness; coordination with municipal, state, federal, and community partners
Monitoring and Continued Implementation	Chapter 9 – Measuring Progress and Next Steps	Annual review process; roles and responsibilities; progress indicators; future resident engagement; integration with other municipal plans and programs
Final Neighborhood Flood and Community Resilience Plan	Entire Plan	Integrated neighborhood-scale resilience framework combining technical analysis, resident priorities, preparedness, property-level mitigation, infrastructure, watershed projects, funding, and implementation

Final Planning Product

The final Granite Street Historic District Flood and Community Resilience Plan brings the individual components of the Municipal Planning Grant project together into a single implementation framework. Rather than treating technical analysis, community engagement, preparedness, and capital planning as separate products, the plan connects them through a common set of neighborhood resilience goals and priority actions.

The planning process combined engineering analysis with local knowledge and resident participation. Thirty households, representing approximately 59 percent of neighborhood residences, participated in the survey, with additional participation through meetings, workshops, community conversations, and Steering Committee discussions.

The resulting plan identifies actions at multiple scales, from household utility protection and emergency preparedness to neighborhood infrastructure and larger Lamoille River watershed projects. It also establishes an implementation structure that identifies project status, lead organizations, partners, potential funding sources, and anticipated timelines.

The plan is intended to remain active beyond completion of the Municipal Planning Grant. Annual review, progress tracking, continued resident engagement, and incorporation of relevant actions into future municipal planning efforts will allow the work initiated through the grant to continue as projects move from planning and conceptual design toward funding and implementation.

Appendix H – Neighborhood Flood Response and Recovery

Municipal Staff Guidance

The Granite Street Historic District has experienced repeated flooding, with significant impacts on homes, personal property, utilities, and residents' ability to recover. While long-term mitigation projects are important, the Town also has an immediate role in helping residents prepare for flooding and begin recovery when floodwaters recede.

This appendix identifies practical actions municipal staff and community partners should consider before, during, and after a flood. It is intended to complement the Town's Local Emergency Management Plan (*The Hardwick Plan*) and existing emergency response procedures.

Before a Flood

- Maintain an inventory of available recovery equipment and supplies, including moisture meters, cleaning supplies, protective equipment, and other materials maintained through the Emergency Supply and Support Center.
- Identify potential locations for temporary dumpsters and determine arrangements for delivery, servicing, and removal.
- Establish procedures for making Town-owned recovery equipment available to residents, including borrowing, return, and maintenance.
- Maintain contact information for community organizations, volunteer groups, and contractors that may assist with recovery.
- Review neighborhood emergency communications procedures, including the portable warning siren, VT-Alert, TextMyGov, and Emergency Communications Volunteers.
- Identify locations where temporary road closures or barricades may be necessary to protect residents and prevent vehicle wakes from worsening flooding.
- Review arrangements for activating the Emergency Supply and Support Center.

During a Flood

Public safety and emergency response remain the first priorities.

- Monitor neighborhood conditions and coordinate road closures and emergency access.
- Activate appropriate emergency communications and provide residents with timely, consistent information.
- Coordinate with neighborhood communications volunteers when safe and appropriate.
- Identify anticipated needs for debris removal, recovery supplies, and volunteer assistance.
- Prepare to activate recovery resources once conditions are safe.

Immediately After a Flood

Once emergency personnel determine that conditions permit recovery activities:

- Arrange for temporary dumpsters or other debris collection services, when resources and disposal arrangements are available.
- Make moisture meters and available recovery supplies accessible to residents through a clearly communicated distribution or borrowing process.
- Provide information about safely returning to flooded buildings, electrical hazards, contaminated materials, drying structures, and documenting damage.
- Coordinate with community partners to identify residents who may need assistance with cleanup, transportation, supplies, or access to services.
- Determine whether trained Muck and Gut volunteers or other recovery organizations can assist.
- Share information about available state, federal, nonprofit, and insurance recovery resources.
- Establish a consistent location or communication channel for recovery updates.

During the Following Weeks

- Continue providing information about available recovery assistance.
- Coordinate debris removal and identify unresolved disposal needs.
- Track requests for assistance and identify households needing additional support, while protecting personal information.
- Document municipal response costs, equipment use, staff time, and damage to public infrastructure as required for potential reimbursement.
- Gather information about drainage failures, floodwater pathways, and other conditions that may inform future mitigation work.
- Review the response with neighborhood representatives and community partners to identify improvements.

Equipment and Resource Readiness

The Town should maintain a basic flood recovery resource inventory and review it annually before the primary flood season.

Resource	Recommended Preparation
Dumpsters and debris disposal	Identify vendors, potential locations, estimated costs, and authorization procedures
Moisture meters	Maintain an inventory and simple resident borrowing procedures
Cleaning and protective supplies	Identify existing supplies, storage locations, and replenishment needs
Dehumidifiers, fans, and drying	Determine what can be made available directly or through partner

equipment	organizations
Barricades and road closure equipment	Identify locations, responsible staff, and deployment procedures
Volunteer assistance	Maintain contacts and coordinate training and safe deployment
Recovery information	Prepare a standard resident handout with safety guidance, contacts, and available resources

Responsibility and Annual Review

The Town Manager/Emergency Management Director should coordinate implementation of this guidance with appropriate municipal departments and community partners.

Before each flood season, designated staff should review equipment availability, vendor arrangements, contact lists, communications procedures, and anticipated costs.

Following a significant flood, the Town should document what resources were available, what residents needed, and what could be improved.

The purpose is straightforward: when flooding occurs, residents should not have to begin from scratch to find basic recovery assistance.

This appendix identifies recommended actions and planning responsibilities. Availability of equipment, services, and financial assistance will depend on conditions, staffing, safety, and available resources.