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Resilient Yantic

Public Workshop #2

September 8, 2025

Agenda

1) Introductions

2) Evaluated Options

3) Options Comparison

4) Dam Removal

5) Channel Widening

6) Managed Retreat after Channel Widening

7) Survey

8) Discussion

1) INTRODUCTIONS

Project Team

SECOG
SOUTHEASTERN CONNECTICUT COUNCIL OF GOVERNMENTS

NORWICH Connecticut
Established 1659

CIRCA
Connecticut Institute for Resilience and Climate Adaptation

TOWN OF BOZRAH

GZA

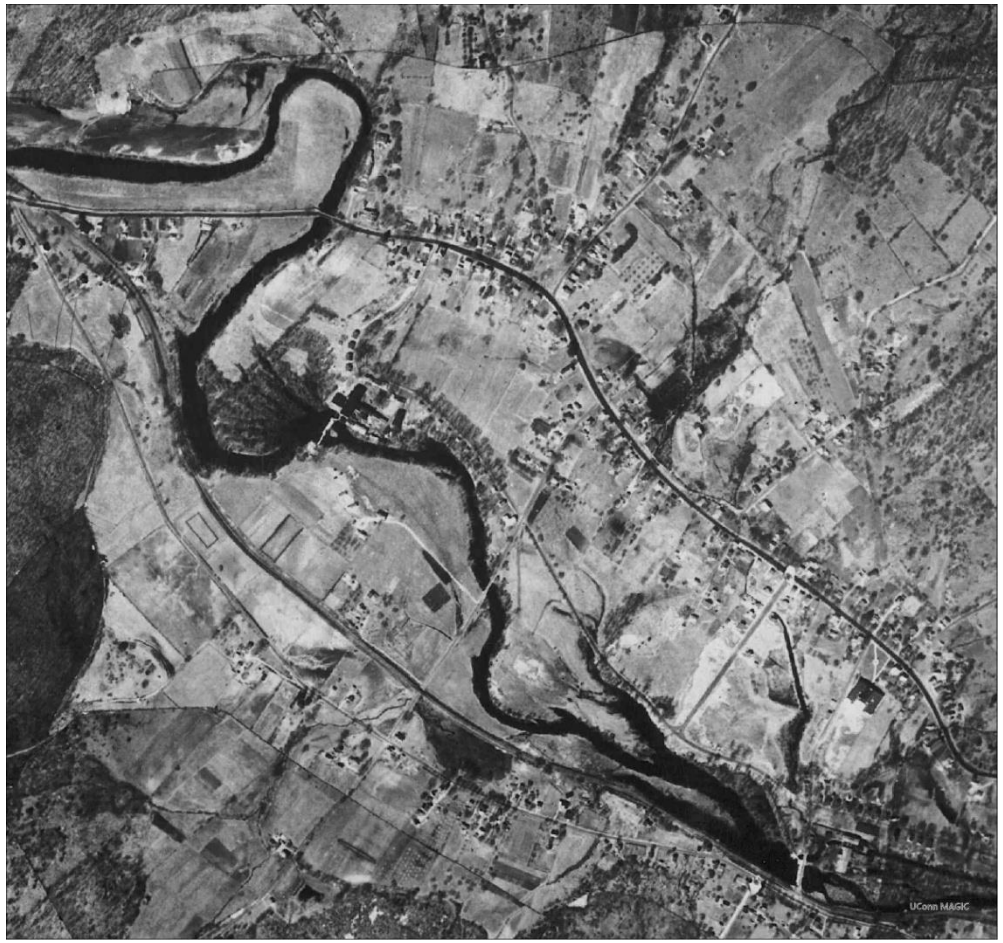
Franklin
CONNECTICUT

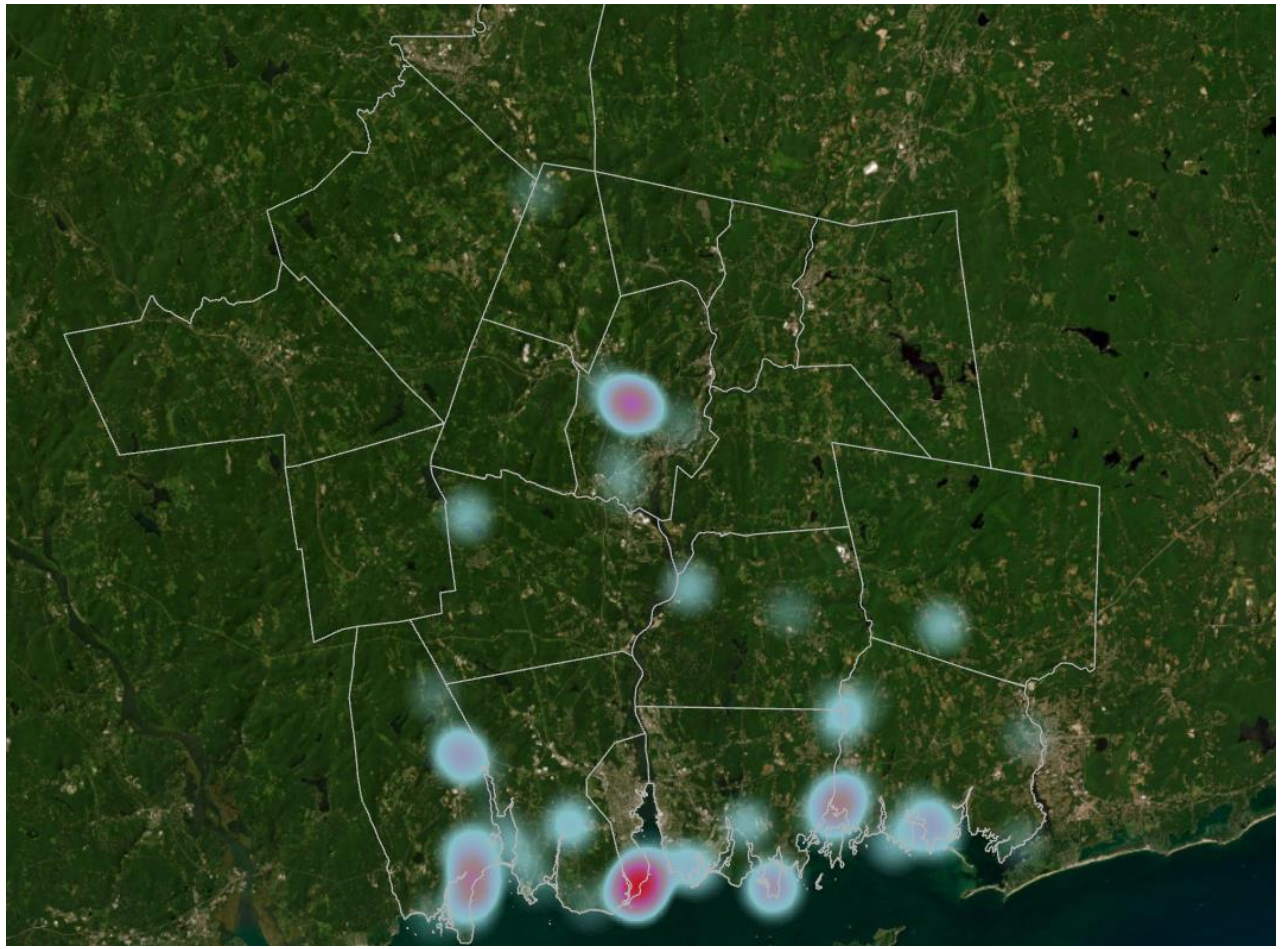
Stantec

Project Purpose

- January 2024 flooding brought municipal leaders together
- Comes out of what we all know and have experienced about living and operating near the river:
  - Properties, roadways, and critical infrastructure are located close to the Yantic and its floodplain +
  - Scale of watershed +
  - Norwich downstream position +
  - River corridor's topography +
  - Barriers to water movement = <u>Flood risk that must be addressed to protect life and property</u>

Project Purpose





Project Process

- Brainstorm and evaluate actions that could reduce flood risk to people and property along the Yantic River
- Assess current and future flood conditions, highlighting relative flood risks along the Yantic corridor
- Engage with the community around the feasibility and effectiveness of different flood mitigation measures and gauge preferences
- Develop concept designs for flood mitigation
- Set team up to pursue funding for next design phase and implementation

Project Committee

- City of Norwich Leadership and Staff
- Town of Bozrah Leadership
- Town of Franklin Leadership
- Norwich Public Utilities
- Norwich Community Development Corporation
- UCFS
- USDA/NRCS
- Federal representatives (Blumenthal, Murphy)
- State Agencies (DEMHS, DEEP)
- Hartford Healthcare
- The Nature Conservancy

Instructions

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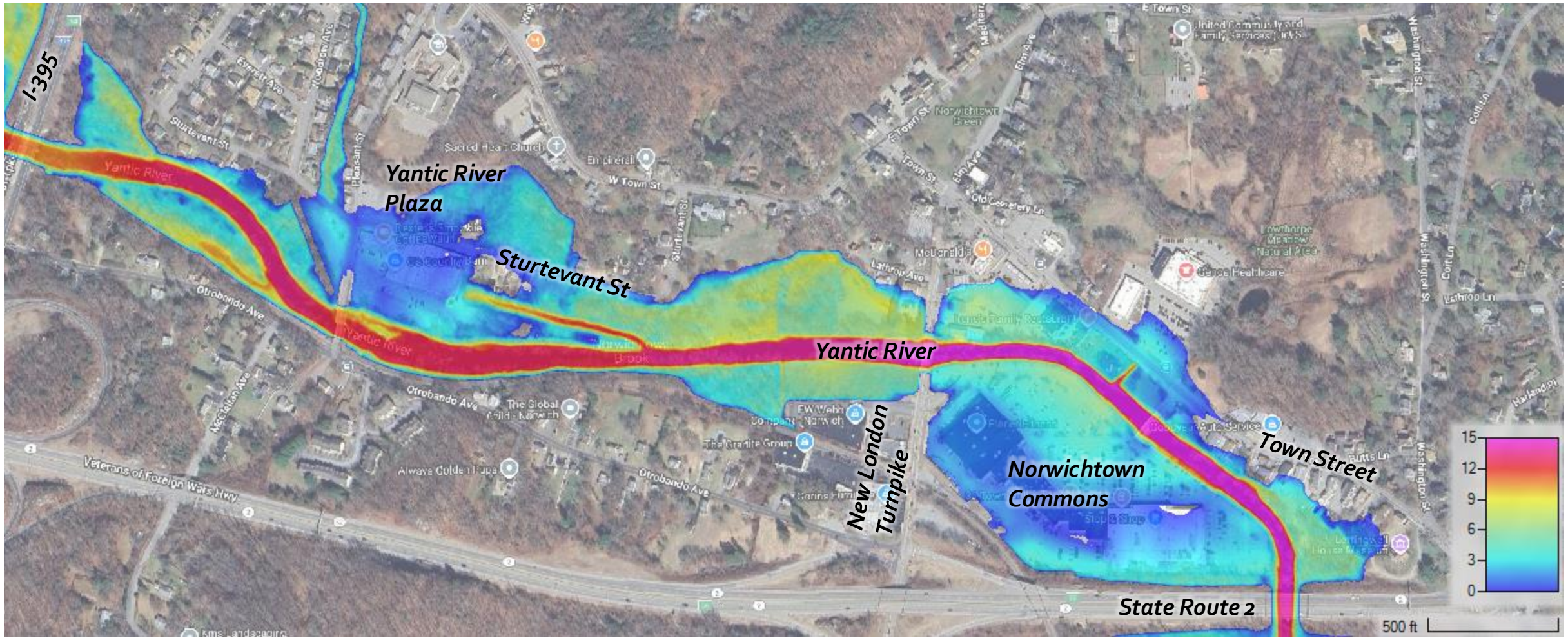
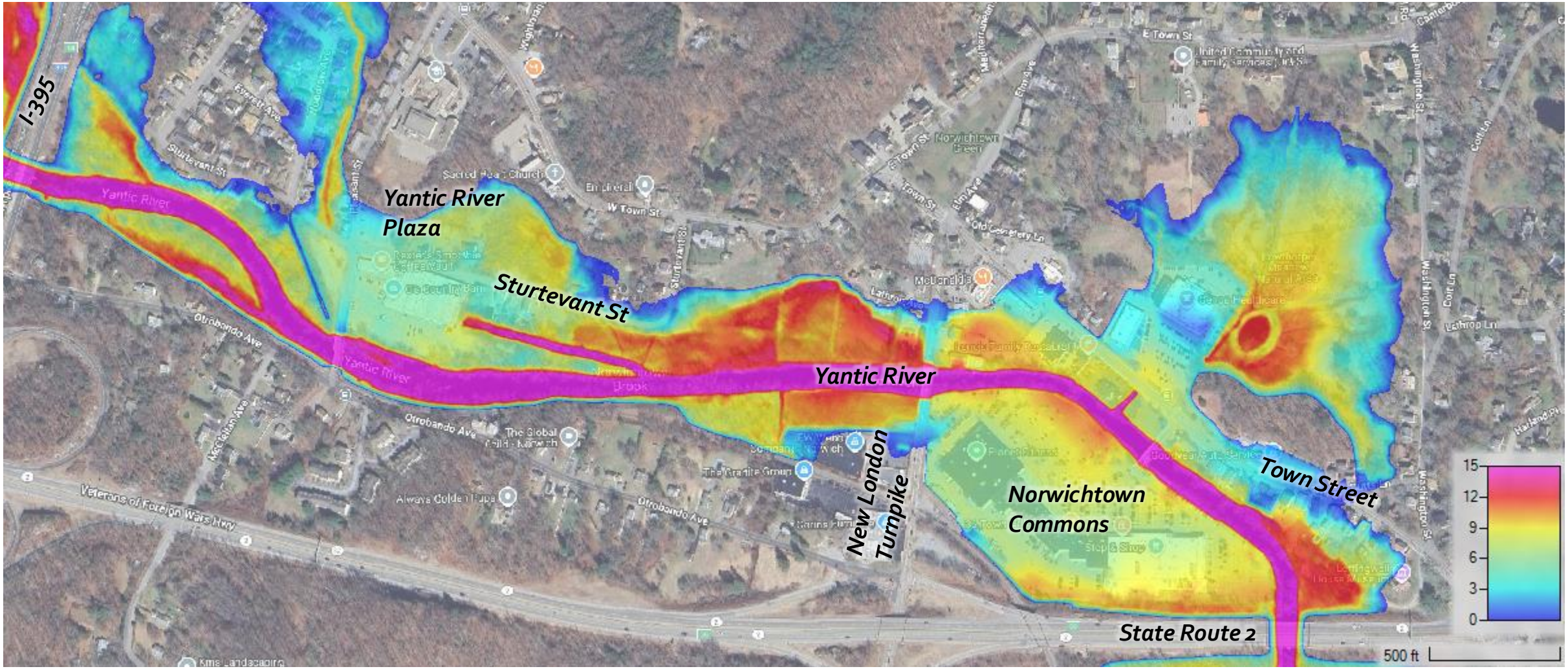
2) EVALUATED OPTIONS

Existing Conditions Recap: 100-Year (1% Annual Chance) Flood



Existing Conditions Recap: 500-Year (0.2% Annual Chance) Flood



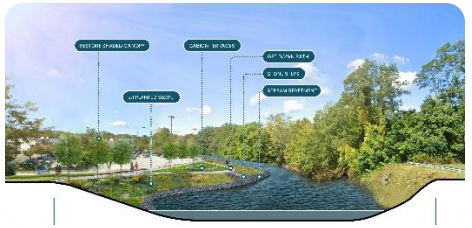
Evaluated Options

Dam Removal

Removing Upper Falls Dam could reduce upstream flood levels, but is unlikely to reduce flood levels around Town Street significantly. Requires vetting, community outreach, permitting, and construction.

Channel Widening

Widening the Yantic River channel and re-establishing the riverbank can increase water storage capacity and reduce flood depths.

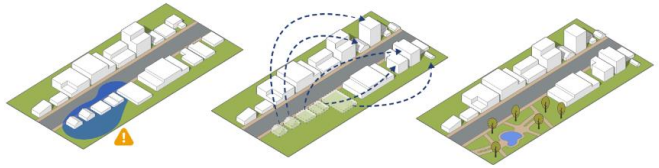


Structural Flood Protection

Physical barriers, such as berms, levees, and walls, that block flooding form a portion of the floodplain.

Managed Retreat

Communities can reduce flood risk to their homes, businesses, and infrastructure by moving to higher ground, out of the way of recurrent flooding.



Considered Alternatives

Building Interventions

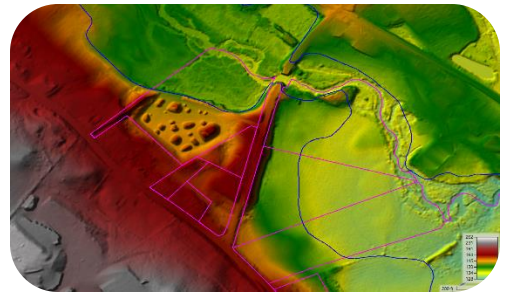
Property owners can reduce flood damages by elevating critical equipment, installing sump-pumps, or elevating whole structures.

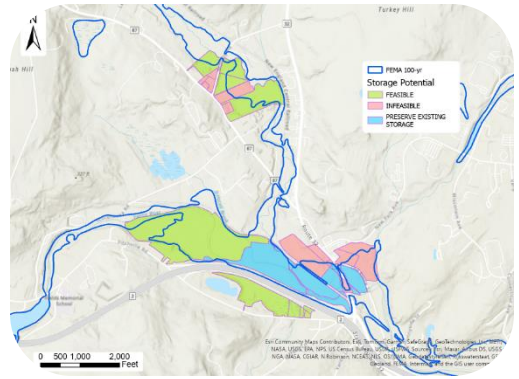
Widening Bridges and Culverts

Increasing waterway passage size can reduce flow impediments. It's unlikely to reduce flood level near Town Street, since existing bridges don't cause severe water backups

Upper Watershed Storage

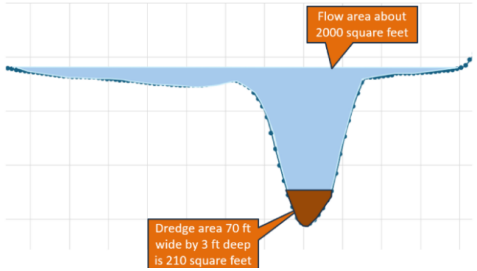
Assessed properties upstream for their ability to store floodwater based on topography and area. Though feasible storage properties were identified, the additional flood storage that they can provide amounted to only 1% of the January 2024 flood volume.





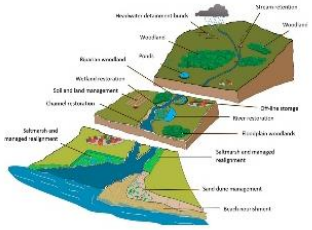
Dredging

Dredging represents a short-term approach. Removing sediment minimally increases water. Increased water flow speeds erode riverbanks and expand channel width.



Watershed-Scale Improvements

Adding green infrastructure and reducing impervious areas can increase water storage capacity and support historic floodplain restorations. These interventions require coordination and cooperation with private property owners.



3) OPTIONS COMPARISON

Considered Alternatives - Comparison

Alternative	Flood Risk Reduction	Anticipated Cost	Solution Duration	Maintenance	Environmental Stewardship	Funding Sources
★ **Upper Dam Removal**	Low to Medium	Medium	Long	Low	High	State, Federal
★ **Channel Widening**	Medium	High	Medium	Low to Medium	Low	State, Federal
★ **Managed Retreat**	Very High	Medium to High	Long	Low	High	State, Federal
Flood Wall/ Berm	High	High	Long	Medium to High	Low	City, State, Federal
Bridge Widening	Medium	Very High	Medium	Medium	Low	State, Federal
Dredging	Low to None	Medium to High	Short to None	High	Very Low	City
Building Level	Low to High	Low to High	Medium to Long	Low to High	None	State, Federal, Property Owner

4) DAM REMOVAL

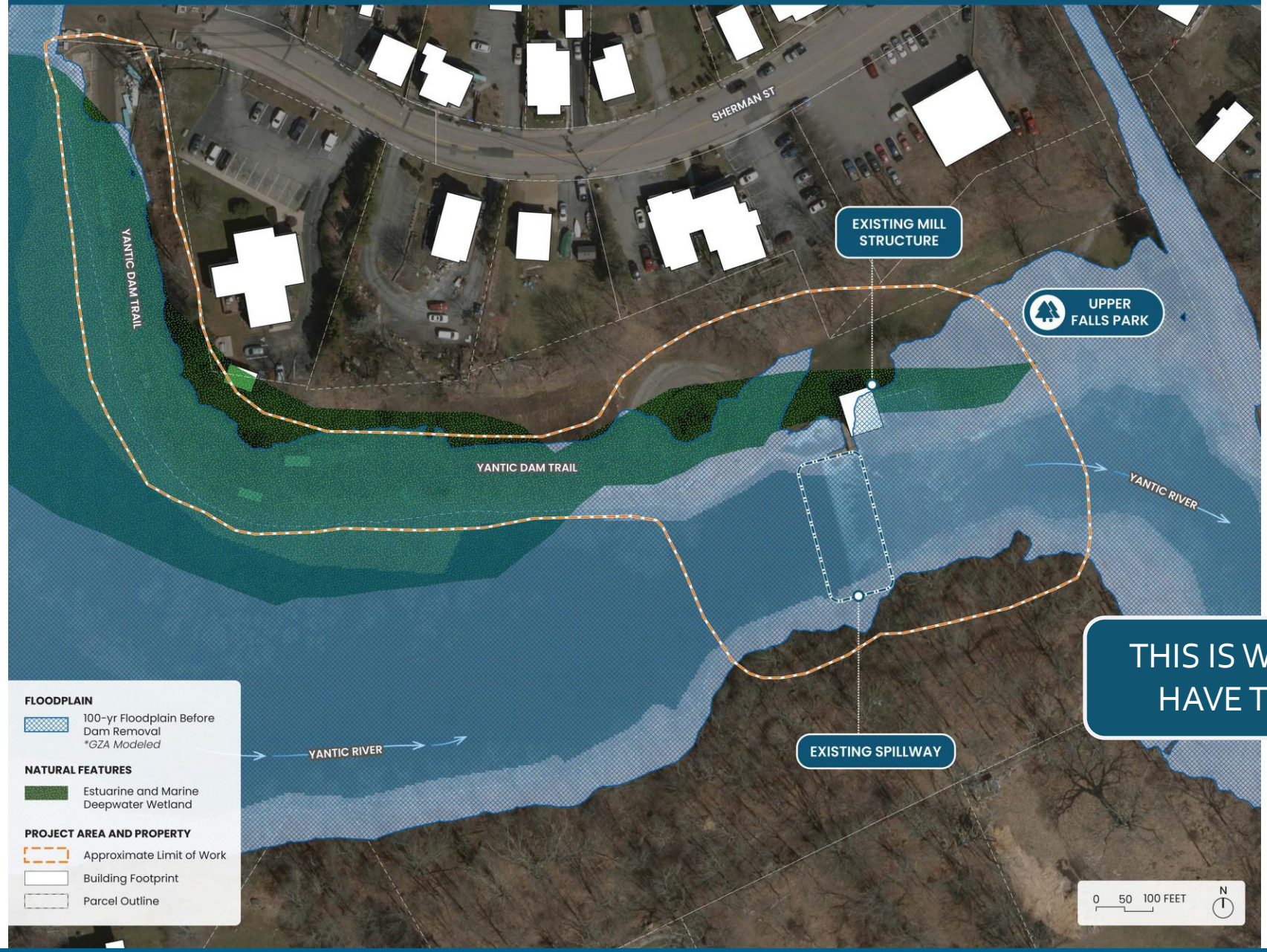
Dam Removal

- **Owned by the City of Norwich**, the 10-foot tall Upper Falls Mill Dam stores **72 acre-feet of water**.
- The **dam is in poor condition** and has **a moderate hazard potential**, with failure likely to damage low-volume roadways

DAM REMOVAL: Post Removal Photo Simulation

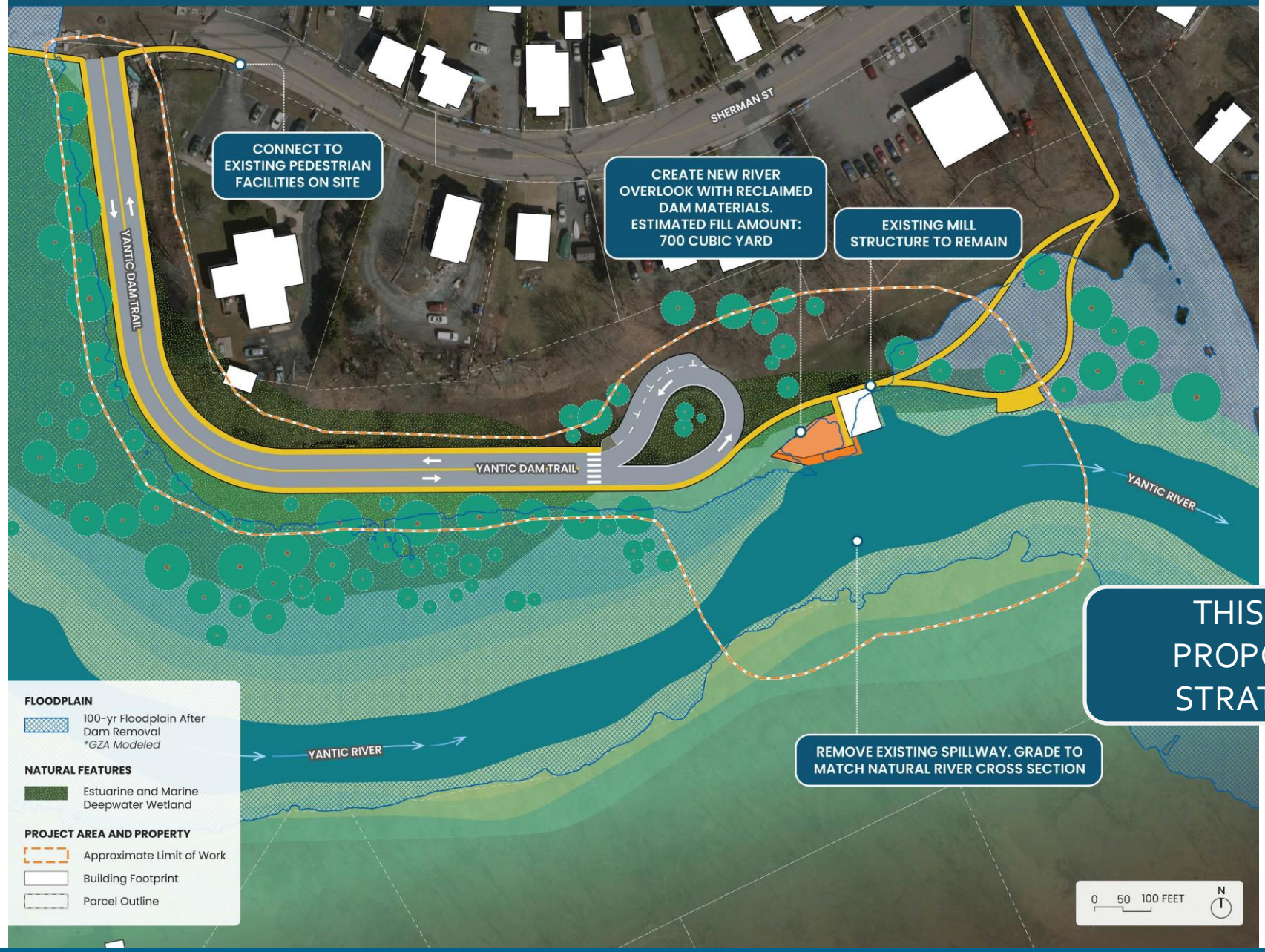
WHAT THE RIVER COULD LOOK LIKE IF THE DAM IS REMOVED

DAM REMOVAL: Existing Condition



THIS IS WHAT WE HAVE TODAY.

DAM REMOVAL: Concept Plan

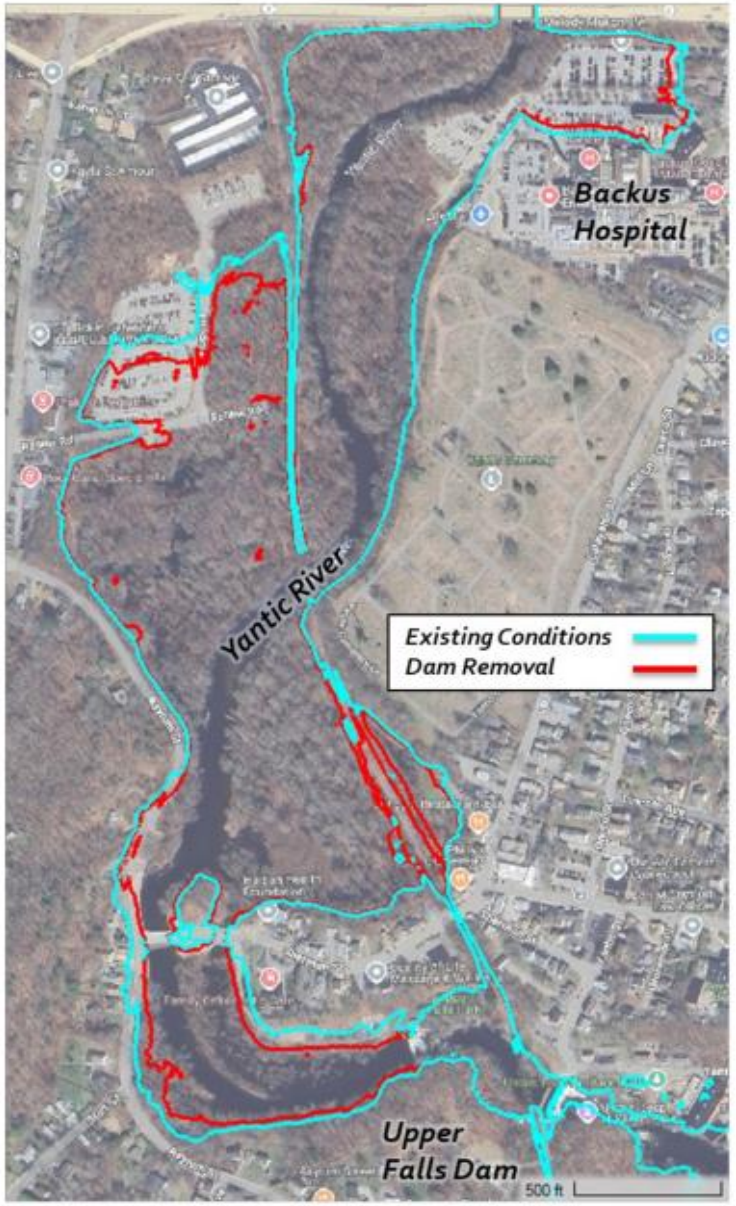


THIS IS A PROPOSED STRATEGY.

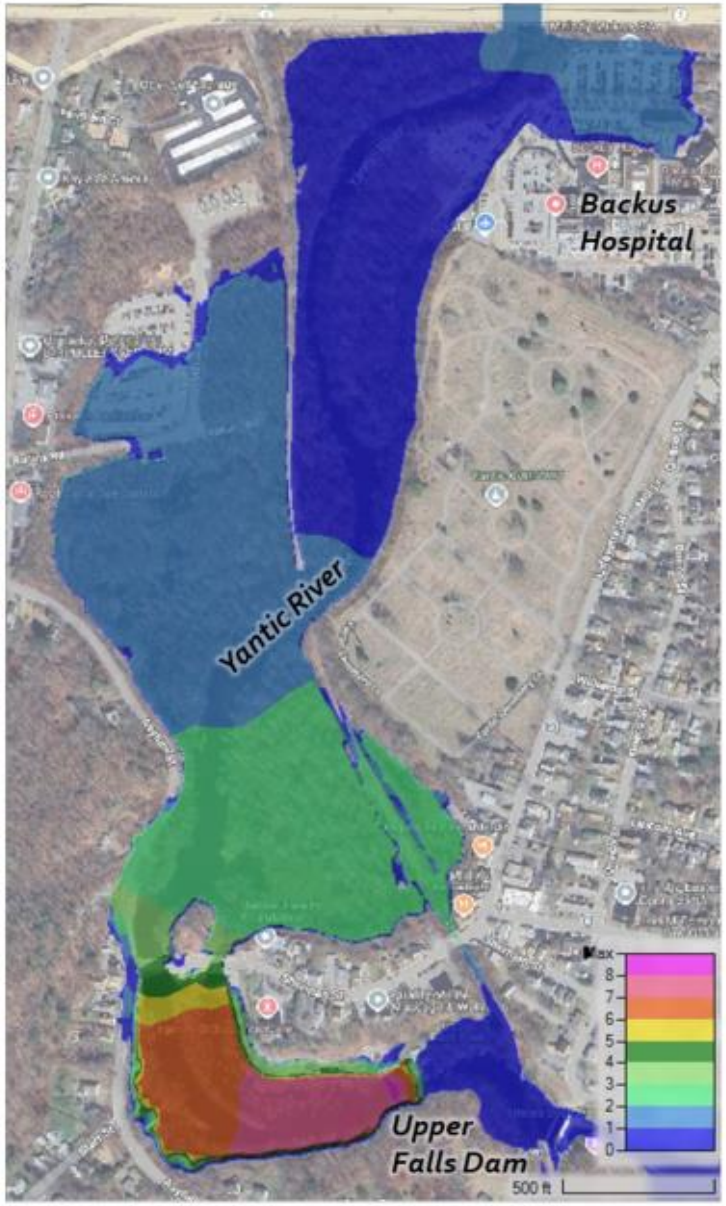
Dam Removal Benefits

- **Eliminate a safety hazard**, ongoing dam **maintenance and repair costs**.
- Potentially **reduce upstream flooding**
- **Offset downstream flood impacts** if channel widening occurs.
- Support the Yantic River's ecological health
- This project would be **eligible for federal and state grants.**

Change in Flooded Area



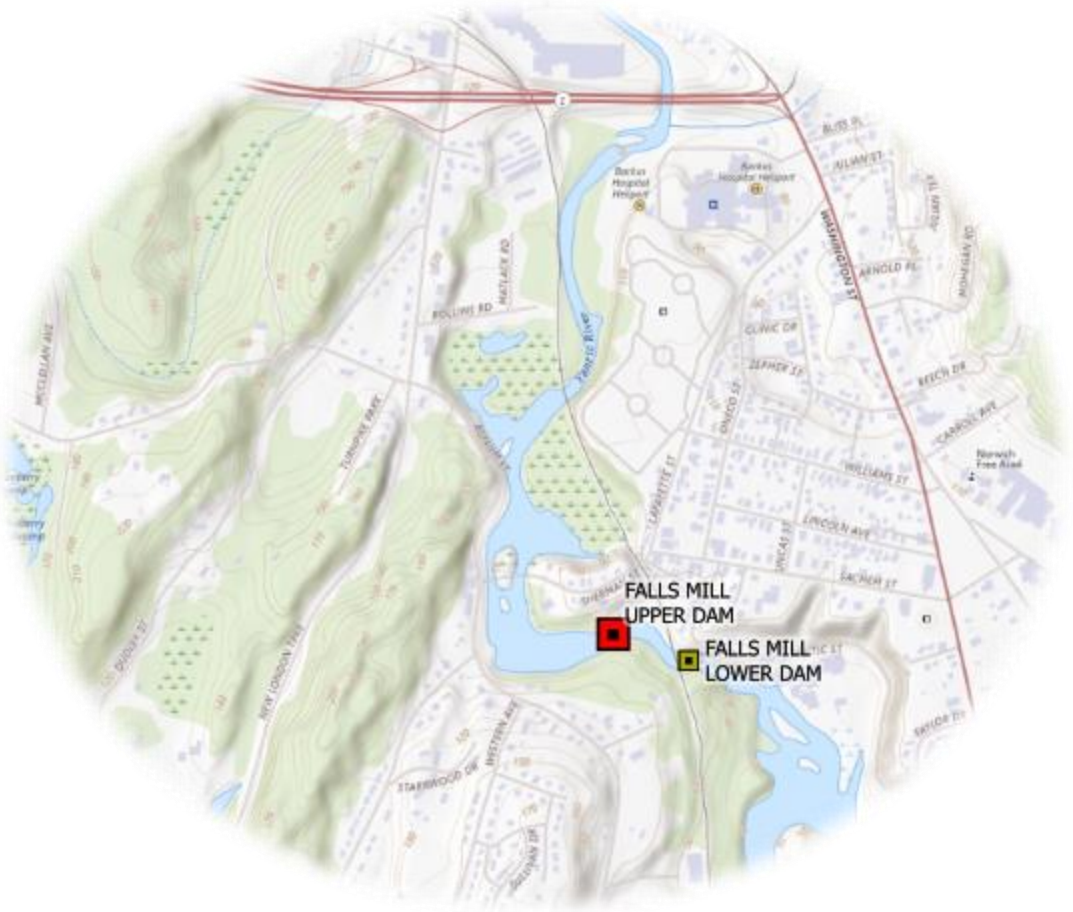
Water Level Reduction (feet)



Next Steps

OBTAIN GRANT FOR PROJECT DESIGN AND ENGINEERING

- Complete all design data gathering, including sediment or subsurface investigations, topographic and bathymetric survey, and a detailed H&H to finalize breach geometry and sediment management approach
- Prepare for Environmental and Historic Preservation review and compliance, including natural resource assessments as needed (wetland flagging, fisheries), historical / archaeological assessments
- Develop project design plans
- Continue community meetings throughout to coordinate with residents
- Prepare bid package document
- Refine Benefit-Cost Analysis calculations



5) CHANNEL WIDENING

Channel Widening

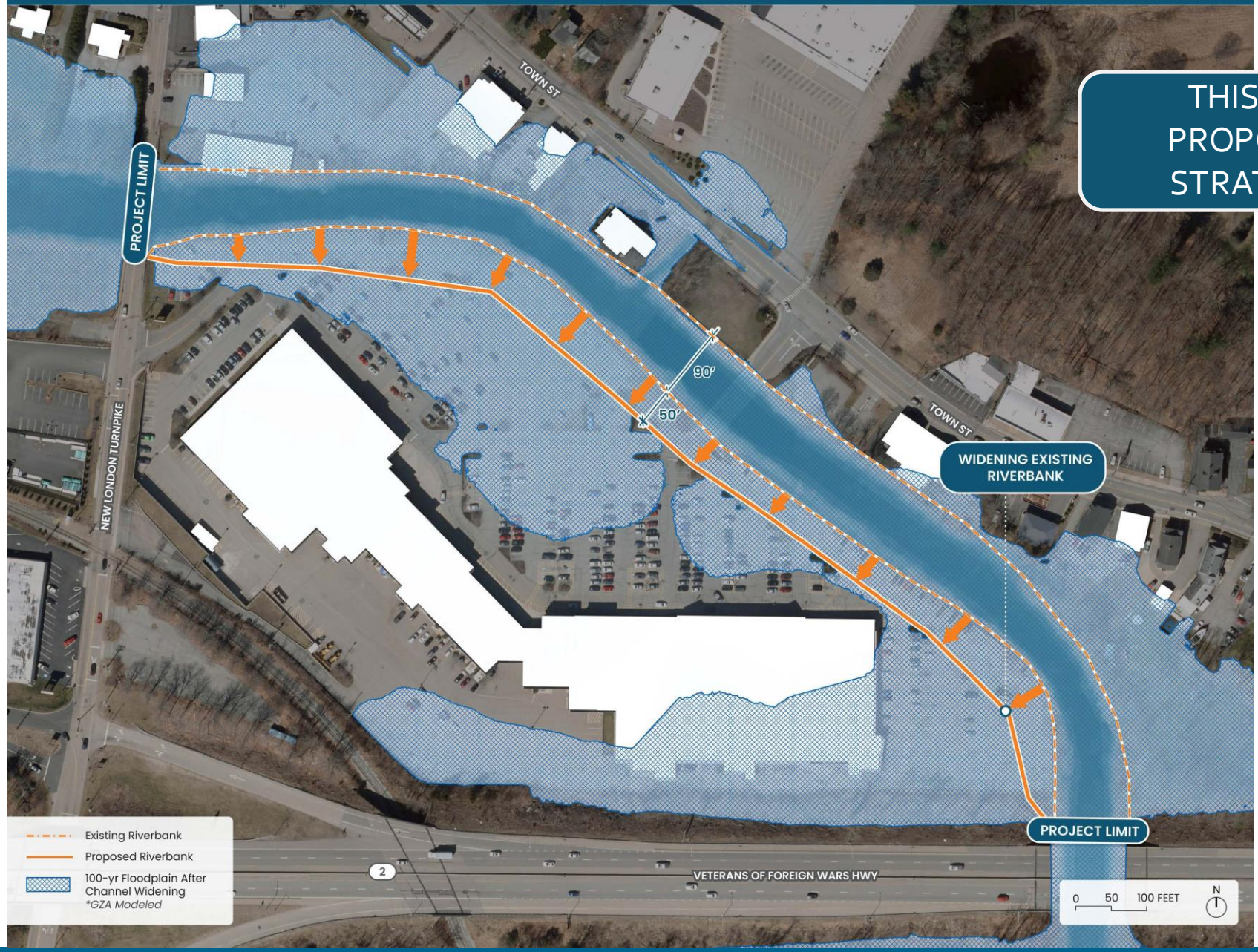
- Under existing 100-Year (1% Annual Chance) Flood conditions, **maximum flood depths** are **one to three feet** on Town Street, and **two to five feet** across the Norwichtown Commons area.

- Widening the Yantic River channel from 90 feet to 140 feet between New London Turnpike and CT State Route 2 **would reduce flooding for the 100-Year (1% Annual Chance) Flood**.

CHANNEL WIDENING: Existing Condition

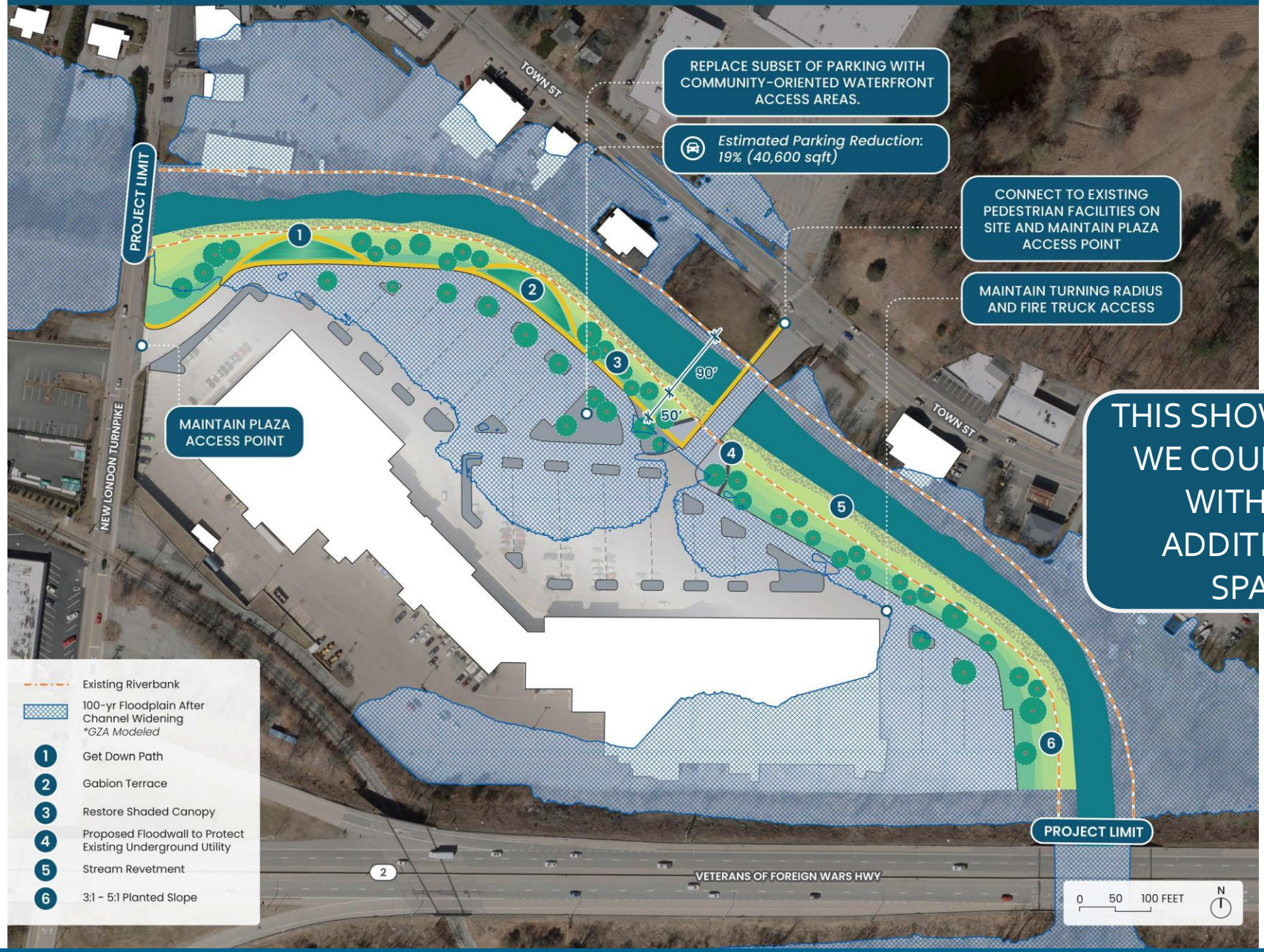
THIS IS WHAT WE HAVE TODAY.

CHANNEL WIDENING: Proposed Strategy



THIS IS A PROPOSED STRATEGY.

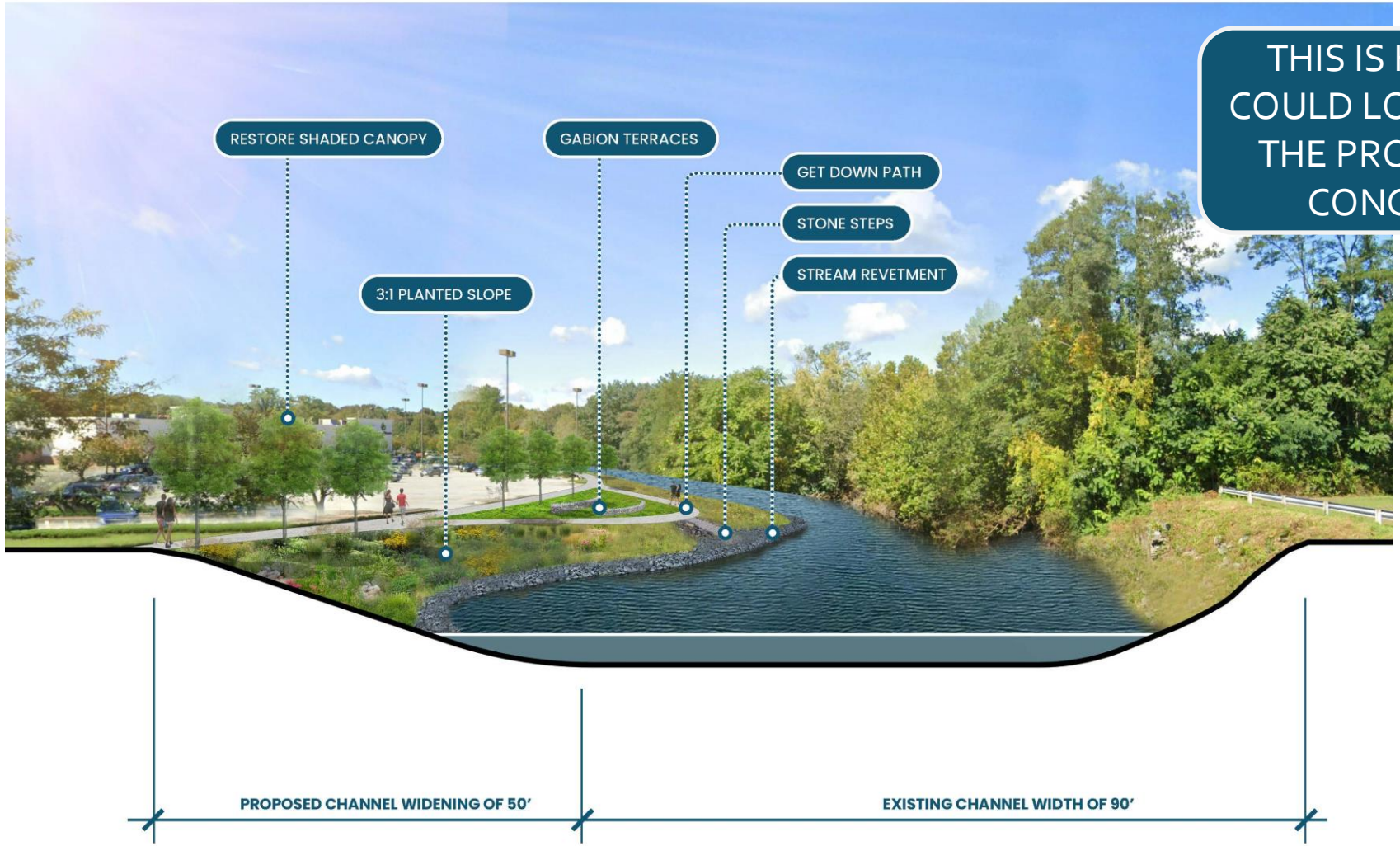
CHANNEL WIDENING: Concept Plan



THIS SHOWS WHAT WE COULD GAIN WITH THE ADDITIONAL SPACE

CHANNEL WIDENING: Existing Channel Condition

CHANNEL WIDENING: Proposed Channel Condition



THIS IS HOW IT COULD LOOK WITH THE PROPOSED CONCEPT.

Channel Widening Benefits

100-Year (1% Annual Chance) Flood	500-Year (0.2% Annual Chance) Flood
Reduces flooding by 2 to 3 feet	Does not provide much benefit
Norwichtown Commons would still see 1 to 2 feet of flooding	Town Street would experience limited improvement
Slight changes to upstream and downstream flooding	**Note**: Due to climate change, what we know today as the 500-Year (0.2% Annual Chance) Flood is projected to be the 100-Year (1% Annual Chance) Flood in the future.

Next Steps

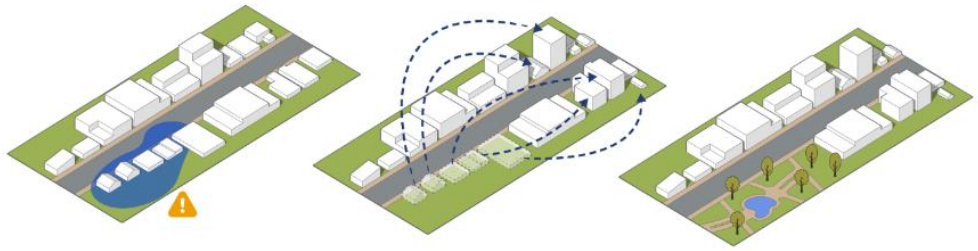
REFINE PROJECT FEASIBILITY, SCOPE, AND APPROACH

- Review options with property owner and City
- Ensure continued compliance with other city requirements (e.g. minimum parking for retail use, etc.)
- Develop project stakeholder list and hold discussions (CTDOT, etc.)
- Refine project budget and develop project financing mechanism
- Develop itemized project task list to present as part of a grant application
- Pursue grant to fund project

6) MANAGED RETREAT AFTER CHANNEL WIDENING

Managed Retreat: What Is It?

Community-led relocation involves coming together to reduce flood risk to homes, businesses, and infrastructure by moving to higher ground, out of the way of recurrent flooding.



Homes and business that face frequent flooding are removed.

New structures for residents and businesses to buy or rent are built in safer areas.

Public parks or wetlands can be established where flooded structures once stood.

Challenges

- **Property appraisals** not reflecting the cost of buying or renting in a tight housing market
- **Loss of tax revenue** if people move outside city limits
- **Delays in funding** can leave residents in limbo
- **Lack of coordination** can lead to fragmented relocation

Best Practices

- **Work together**—community collaboration is key
- **Plan ahead**—identify risks and recovery options early
- **Ensure fairness**—programs must be transparent and well-funded
- **Support affordability**—relocation should be within reach for all
- **Equity-centered**—include all voices and build a shared vision

Residents and business owners in Yantic already dealing with frequent flooding. And it's expected to get worse. The **Yantic River is projected to flood more often and more severely**, putting lives, homes, and livelihoods at risk. Without action, residents and business owners may face higher insurance premiums, repeated damage and repair costs, and ongoing threats to safety and stability.

Source: The Norwich Bulletin, https://www.norwichbulletin.com/picture-gallery/news/local/2013/06/29/flooding-in-eastern-connecticut/36373400?/

Managed Retreat: How Does It Work?

Assess Community Interest	Surveys and direct outreach identify residents interested in participating in the program.
Resilience Planning + Prioritization Criteria	Local government officials and residents discuss interest in potential buyouts, and develop prioritization criteria
Relocation Planning	Planners, program administrators, and city officials work to identify receiving locations for program participants.
Funding/Grant Application	Buyout program administrators making funding decisions and develop grant applications for property owners
Implementation	Buyout program staff work with property owners to coordinate grant administration, property acquisition, and relocation
Land Restoration	Cleared sites are restored as wetland habitat, open space, or recreation areas.

Managed Retreat Benefits

Managed retreat would allow community members to reduce flood risk to their homes, businesses, and infrastructure by voluntarily moving to higher ground. It would also increase public safety.

Channel widening would **reduce** the number of buildings in the floodplain. Relocated residents and businesses would benefit from:

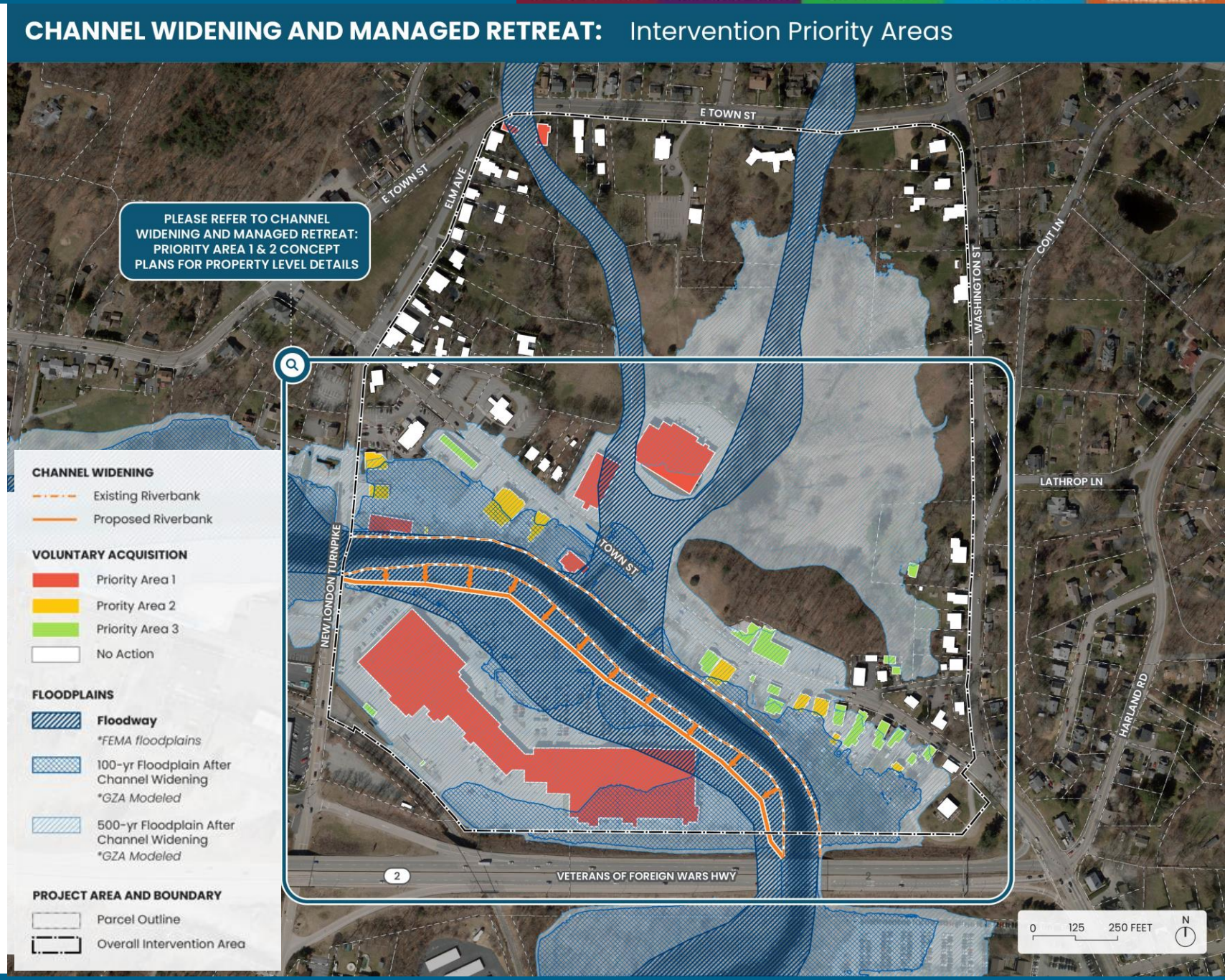
- Less flooding
- Fewer insurance hassles
- Reliable access to services

Managed retreat can support communities in re-imagining their future:

- Infill housing developments in nearby low-risk neighborhoods can provide housing near residents' original communities
- River access can be restored, and new space established for recreation or conservation
- Burden on emergency service providers and public works departments can be reduced

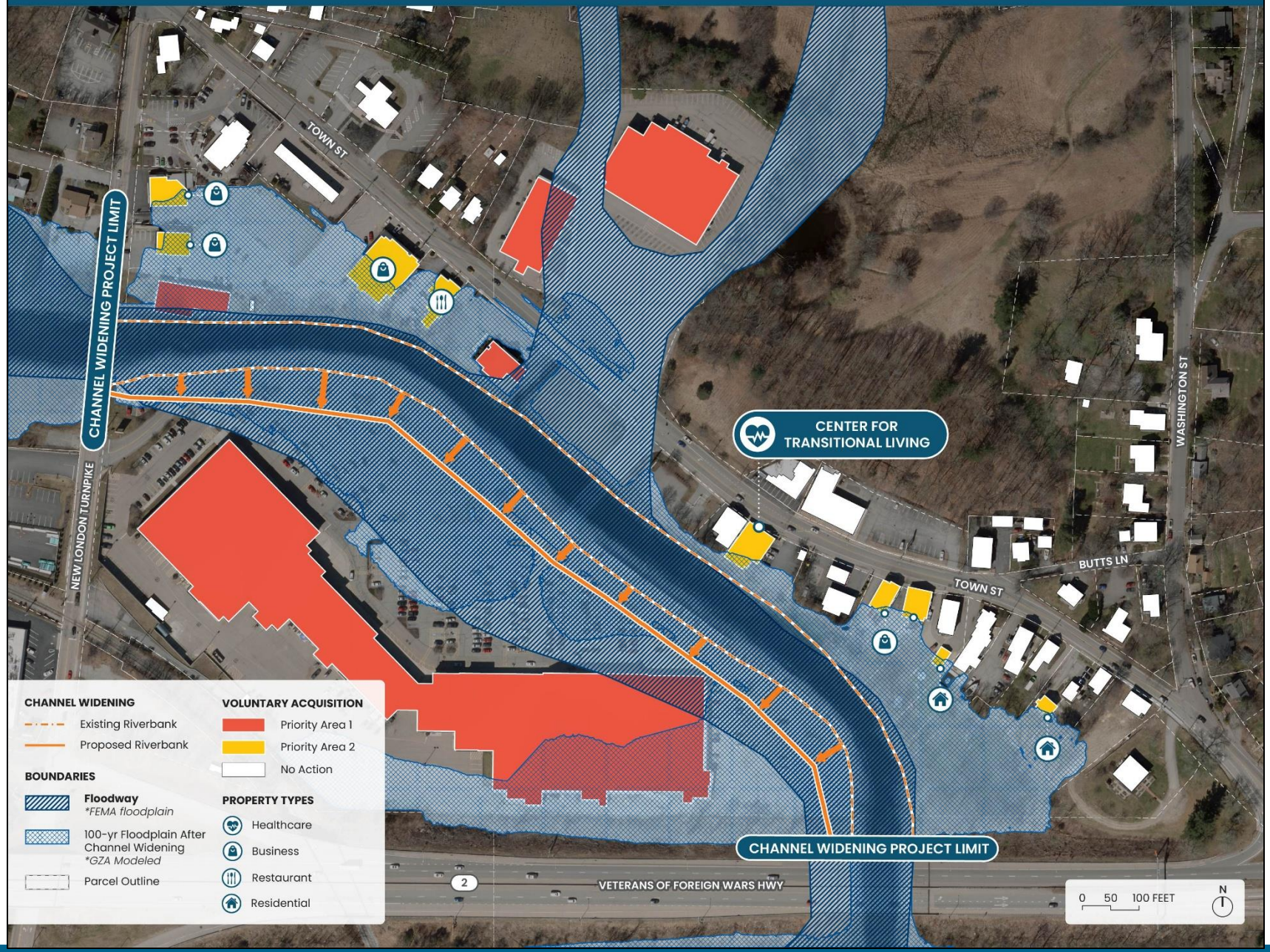
Managed Retreat after Channel Widening

- **After channel widening, 28 properties** would still be **at risk.**
- **Additional site scale evaluation** of these properties is needed. **Properties with the most severe flood risk** (those in the floodway) **could be good candidates for managed retreat.**
- **Assessing interest** in relocation would be the first step to understand who is impacted, who **wants to move**, and **needed support**. A managed retreat program would coordinate **buyout funding** and **help participants relocate.**



CHANNEL WIDENING AND MANAGED RETREAT: Priority Area 1 Concept Plan

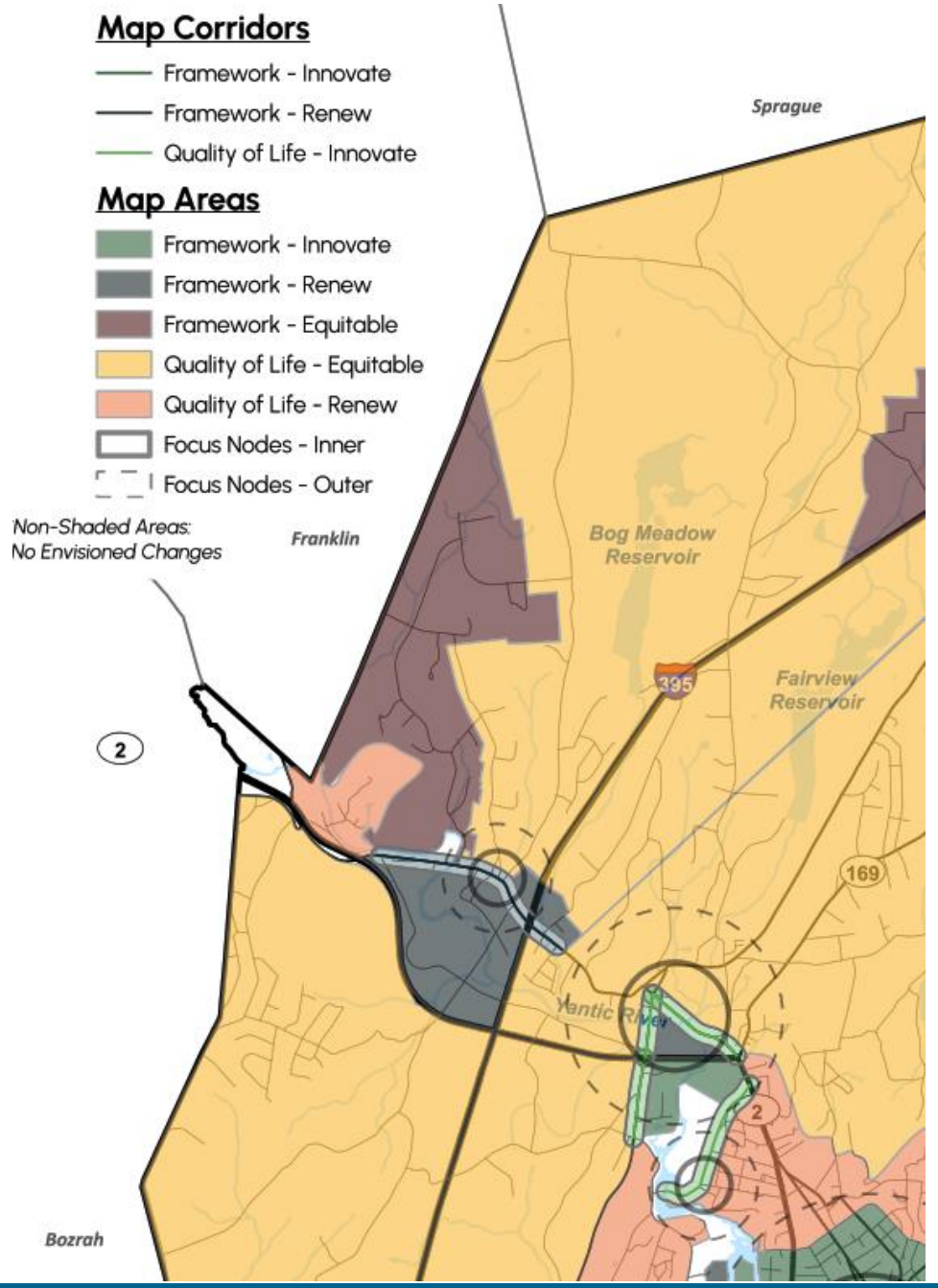
CHANNEL WIDENING AND MANAGED RETREAT: Priority Area 2 Concept Plan



Next Steps

(1) RECEIVING AREA PLANNING

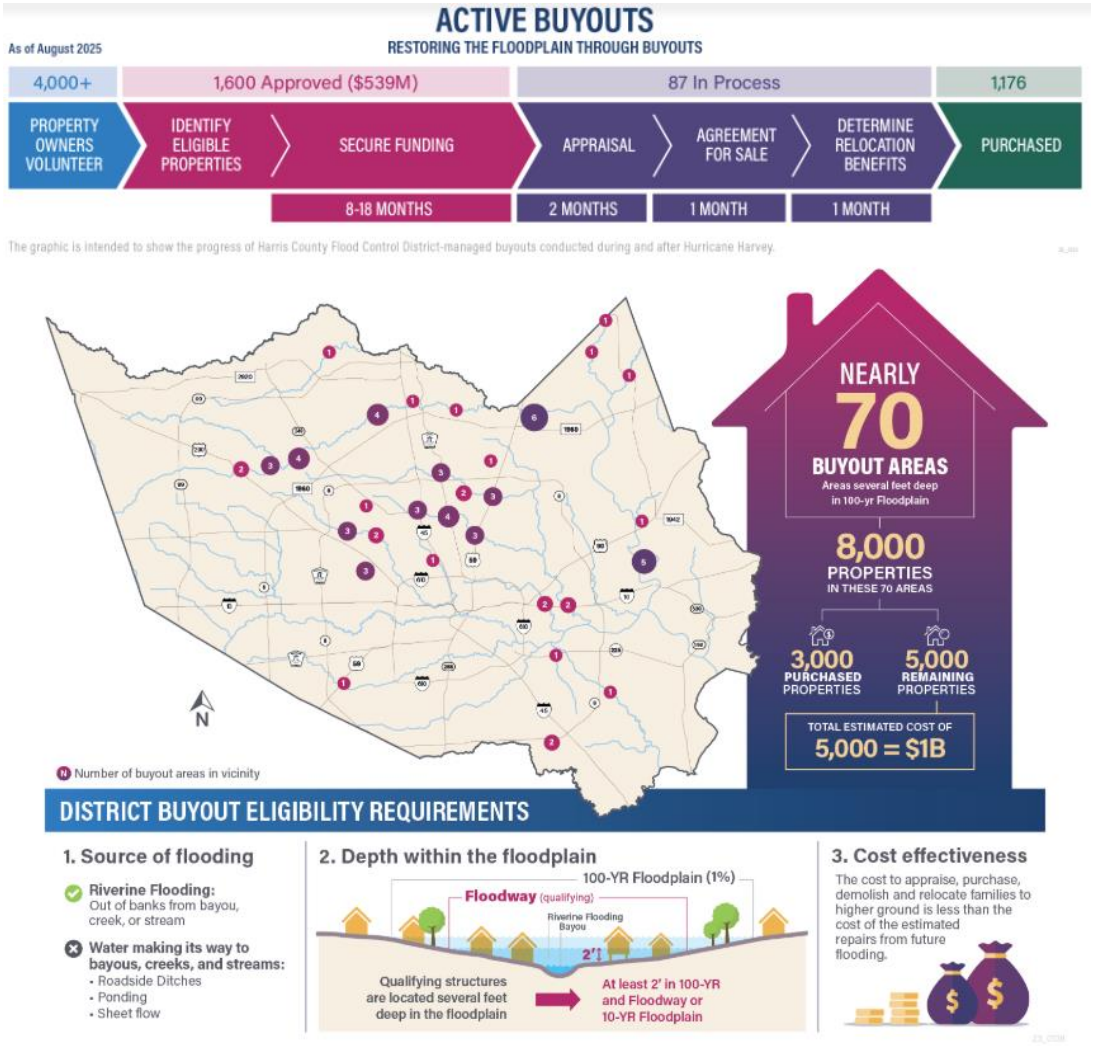
- Present project demonstrates areas at highest flood risk / priorities for relocation, but this is only one side of the equation – where are there receiving areas in or nearby the Town Street corridor with less flood risk?
- Initiate corridor economic development plan to determine areas that may be feasible for new or redevelopment.
- In line with the Norwich POCD: initiatives will include adaptive reuse, brownfield redevelopment, redevelopment due to outdated buildings or site layouts.



Next Steps

(2) PREPARE FOR NEXT FLOOD EVENT & INITIATE RELOCATION PROGRAM

- Continue to provide information to existing and potential future tenants of the corridor on flood risk
- Confirm interest in relocation from individual property owners and their specific barriers to relocation (e.g. property identification, rent differential, buy-out financing, equipment replacement, etc.)
- Have ready-to-go acquisition funding applications ready for next post-disaster funding period per FEMA program process AND
- Advocate for new funding sources at the state level for a proactive relocation program



7) SURVEY

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8) DISCUSSION

Open Discussion

Some questions to get us started:

1. **What are your initial impressions of each of the three concepts?**
2. **Which elements of the designs do you find most effective in addressing flood risks in your area?**
3. **Are there any features of impacts in the designs that raise concerns for you (e.g. environmental, visual, cost, disruption)?**
4. **How well do the designs reflect your priorities (e.g. safety, sustainability, aesthetics)?**
5. **What suggestions do you have for improving or combining elements from the concept designs?**

Contact Information

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Project Website: bit.ly/ResilientYanticRiver

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