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# Resilient CT Piper Brook and Webster Brook Flood Mitigation Project

Connecticut Association of Flood  
Managers

2025 Annual Conference

November 20, 2025





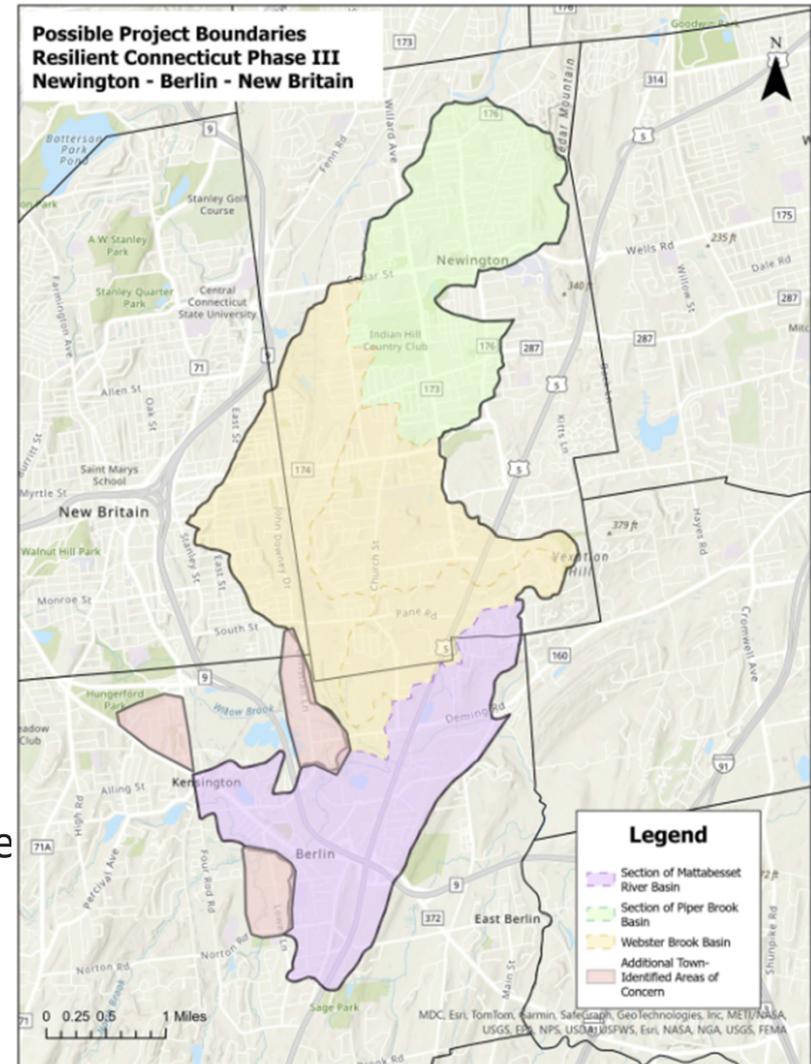
# Project Overview and Location

What is the project?

- Identify highest priority flood risk sites
- Develop adaptation strategies, propose measures
- Mitigate long-term flood impacts to residents and business owners

Where is the project?

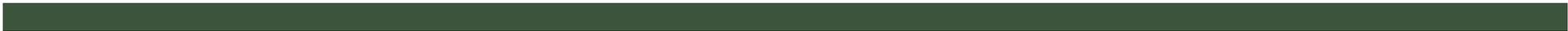
- Along the Piper Brook and Webster Brook corridors
- Newington, Berlin, and New Britain communities





# Project Goals

- 1 Engage community stakeholders to understand flooding concerns and increase awareness
- 2 Identify flood vulnerabilities along rivers and model existing conditions
- 3 Develop concept alternatives for restoration and flood mitigation plans along the river.





# Advisory Committee

Organization / Municipality	Representatives
Newington	Town Engineer
	Town Planner
Berlin	Town Engineer / Public Works Director
	Deputy Public Works Director
	Town Councilor
	Town Manager
New Britain	City Engineer
	Director of Public Works
Capitol Region Council of Governments (CRCOG)	Principal Planner
Connecticut Institute for Resilience and Climate Adaptation (CIRCA)	Community Resilience Planner
	Community Resilience Planner
	Director of Resilience Planning



# Data Collection







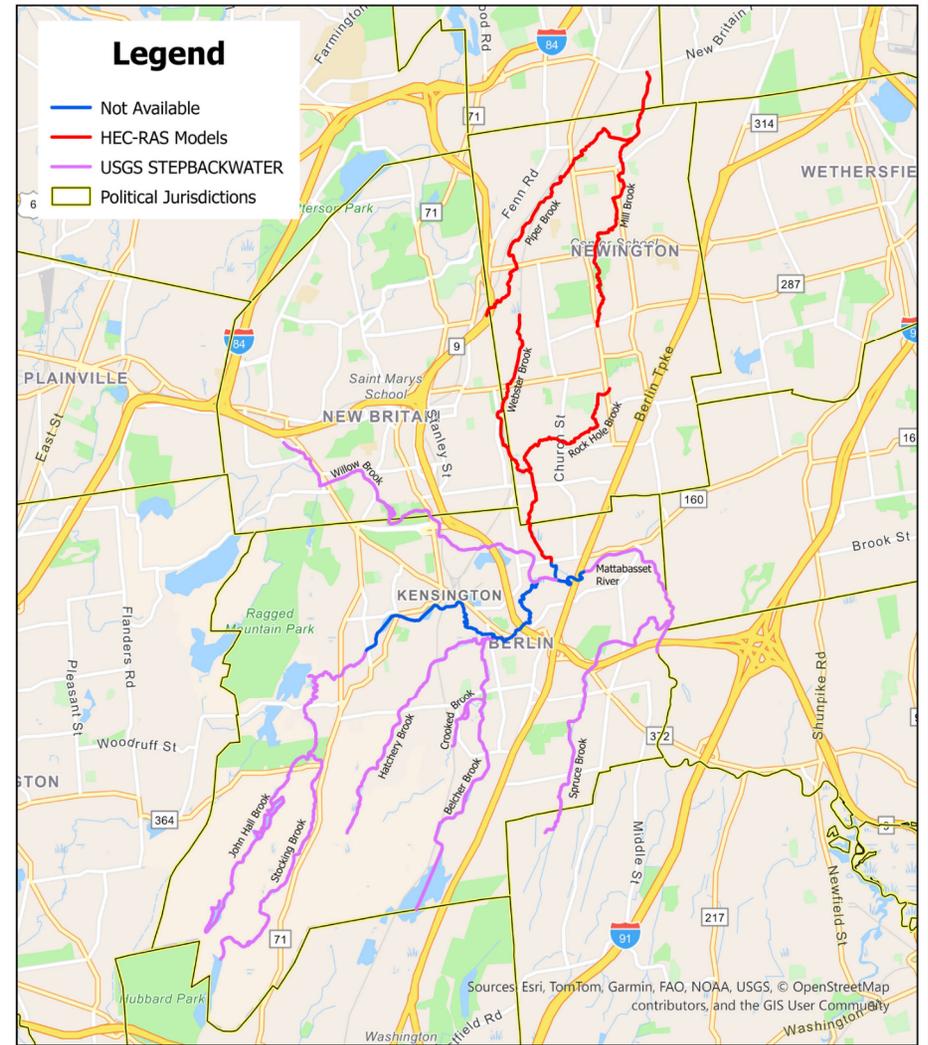
# Available Hydrologic and Hydraulic Data

## Hydrology

- FEMA Flood Insurance Study hydrology
- Regional Regression Equations

## Hydraulics

- Review of available FEMA models
  - Un-georeferenced HEC-RAS
  - USGS Stepbackwater models
  - Some areas with no available FEMA models
- Modeling at priority sites required a combination of:
  - Updating FEMA HEC-RAS models
  - Creation of new HEC-RAS models
  - HY-8 culvert analysis





# Priority Sites & Concept Designs

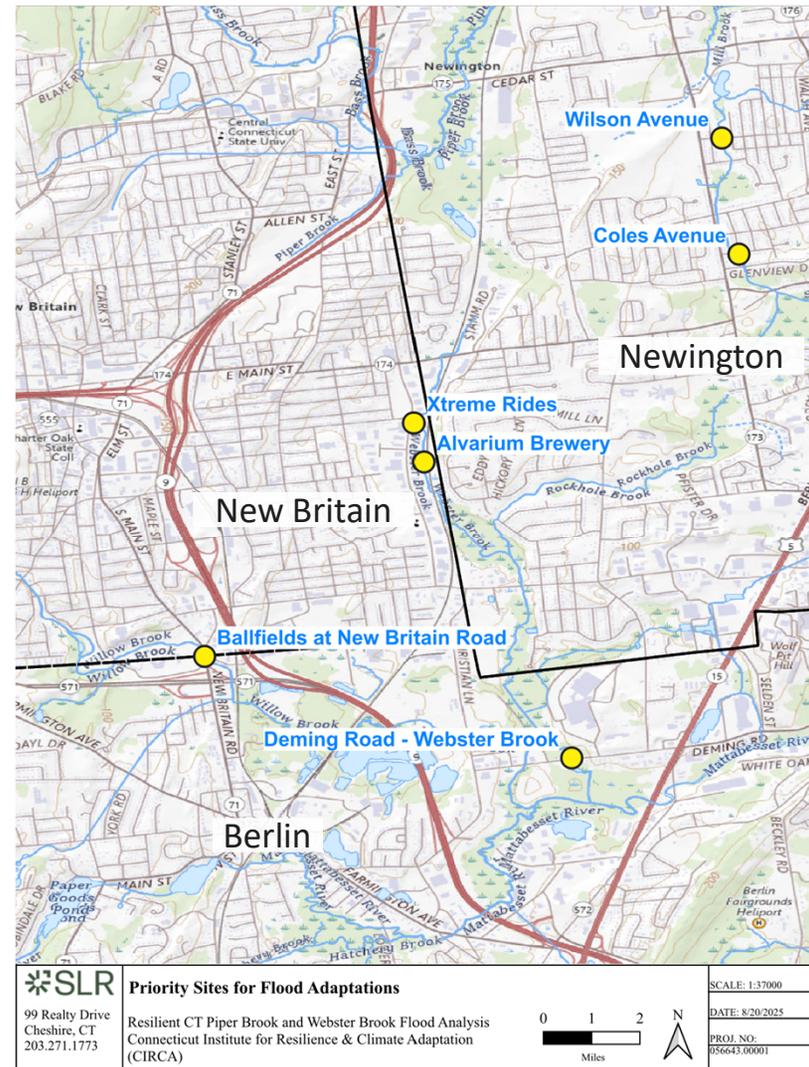




# Priority Concept Design Sites



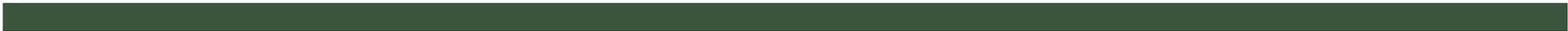
1. Wilson Avenue - **BCA**
2. Deming Road (Webster Brook) - **BCA**
3. John Downey Drive – Alvarium - **BCA**
4. John Downey Drive – Xtreme Rides
5. Veterans Stadium/Willowbrook Park  
Ballfields on New Britain Road
6. Coles Ave





# Priority Site

Wilson Avenue, Newington





# Priority Site

## Wilson Avenue, Newington (concept design)



**Proposed Measure:**  
Replace undersized bridge

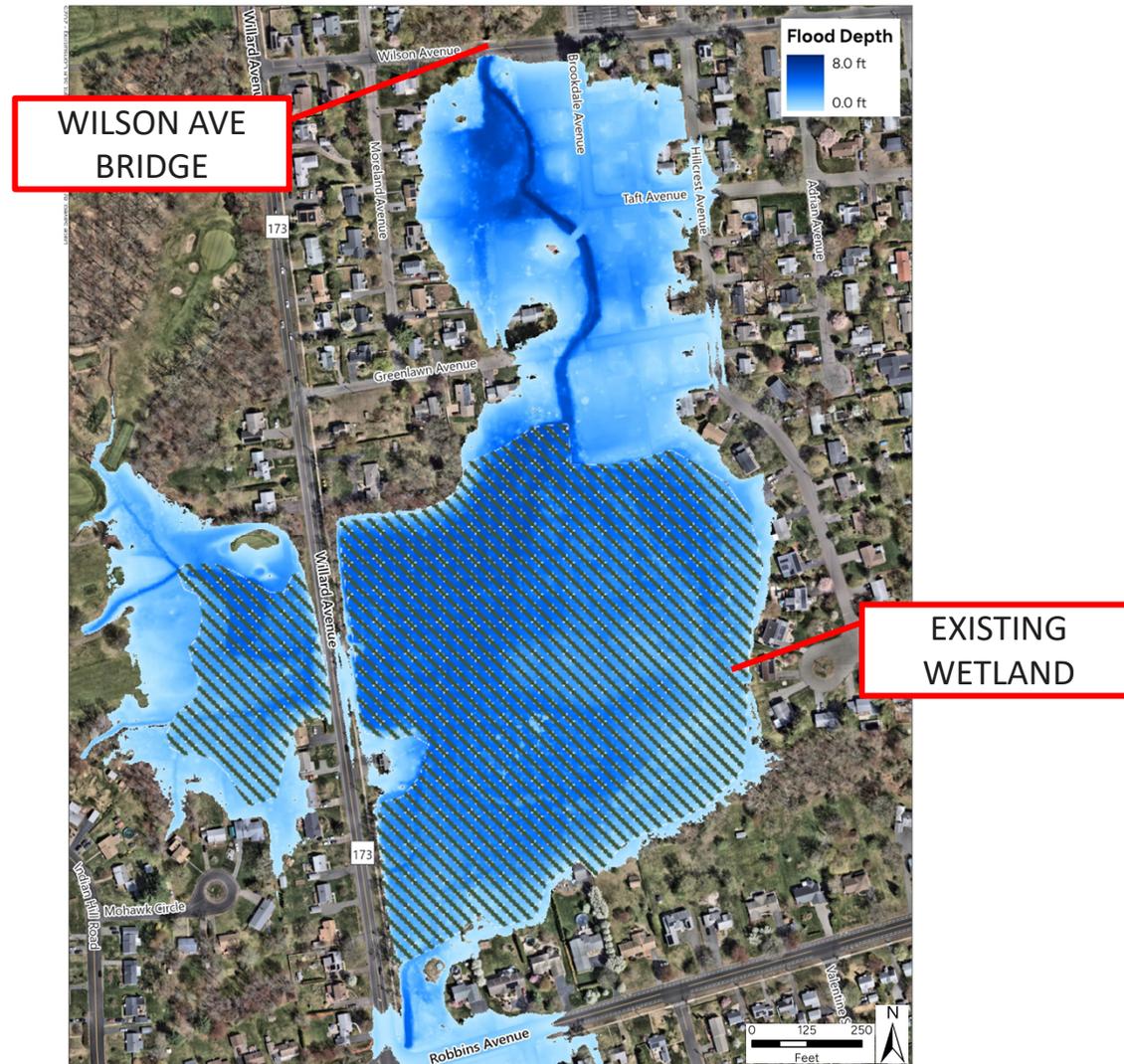
**Cost Opinion:**  
~\$ 2,250,000



# Priority Site

## Wilson Avenue, Newington

Existing Conditions  
100-yr Flood





# Priority Site

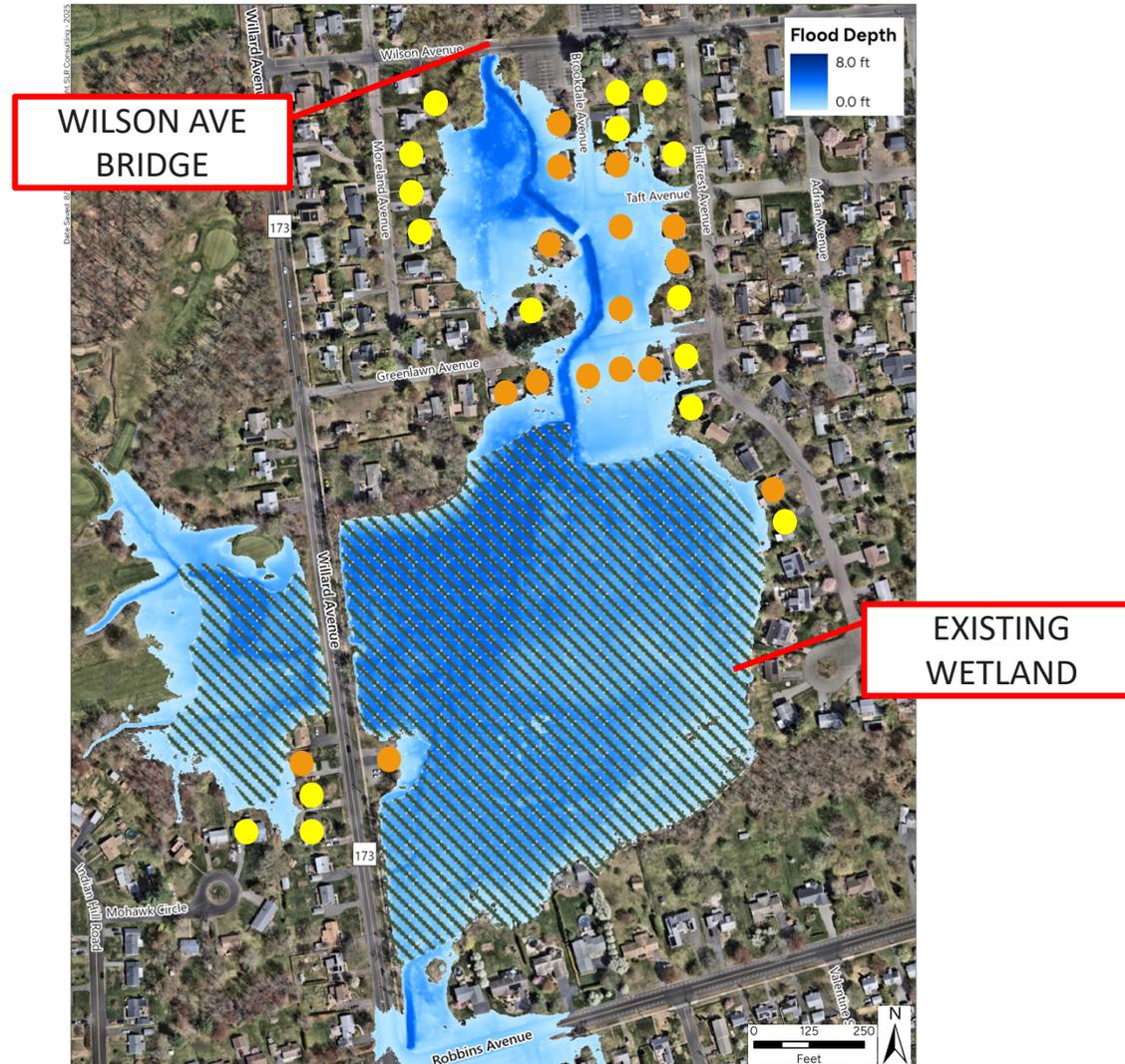
## Wilson Avenue, Newington

### Proposed Bridge Replacement 100-yr Flood

● = Structure Removed  
from 100-Yr Flood Extents

● = Reduction of Flooding  
at Structure

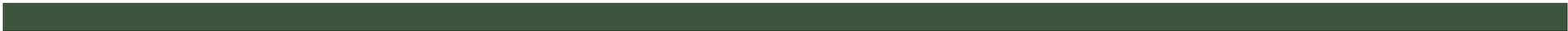
Bridge replacement  
benefits 32 structures





# Priority Site

Deming Road at Webster Brook, Berlin

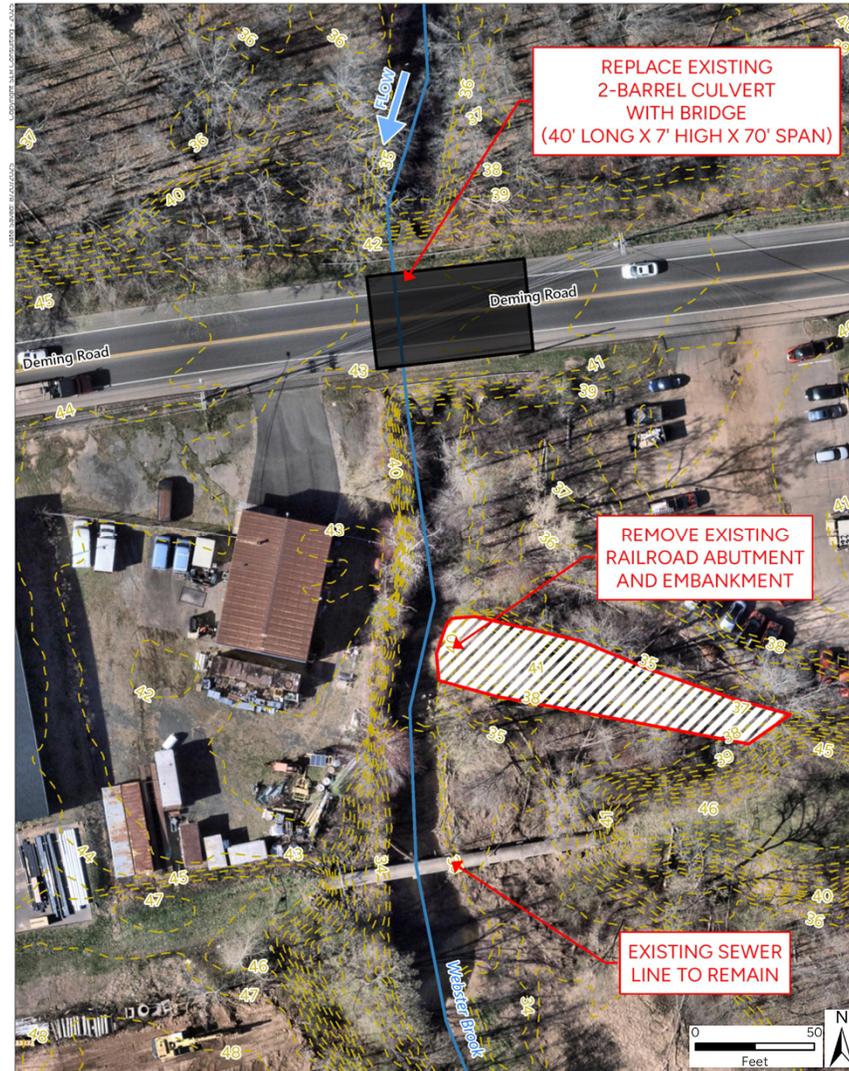




# Priority Site

## Deming Road at Webster Brook, Berlin

(Concept Design)



### ***Proposed Measures***

#### ***Option 1:***

Replace undersized culvert + Remove Railroad Abutment/Embankment

#### ***Cost Opinion:***

~\$3,300,000

#### ***Option 2:***

Remove Railroad Abutment/Embankment

#### ***Cost Opinion:***

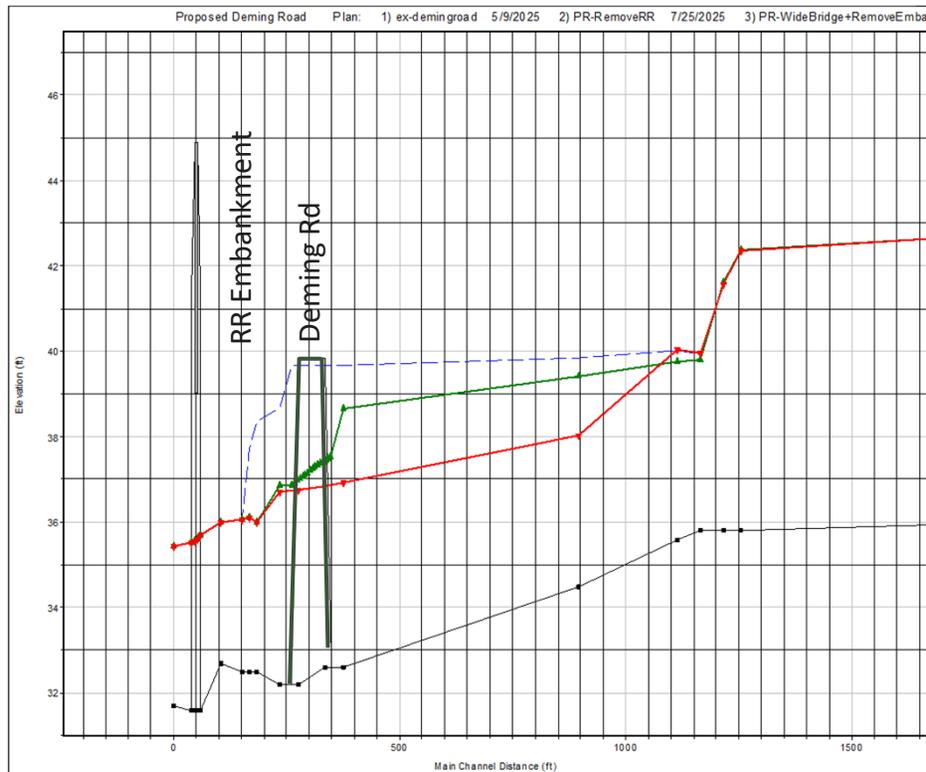
~\$ 838,000



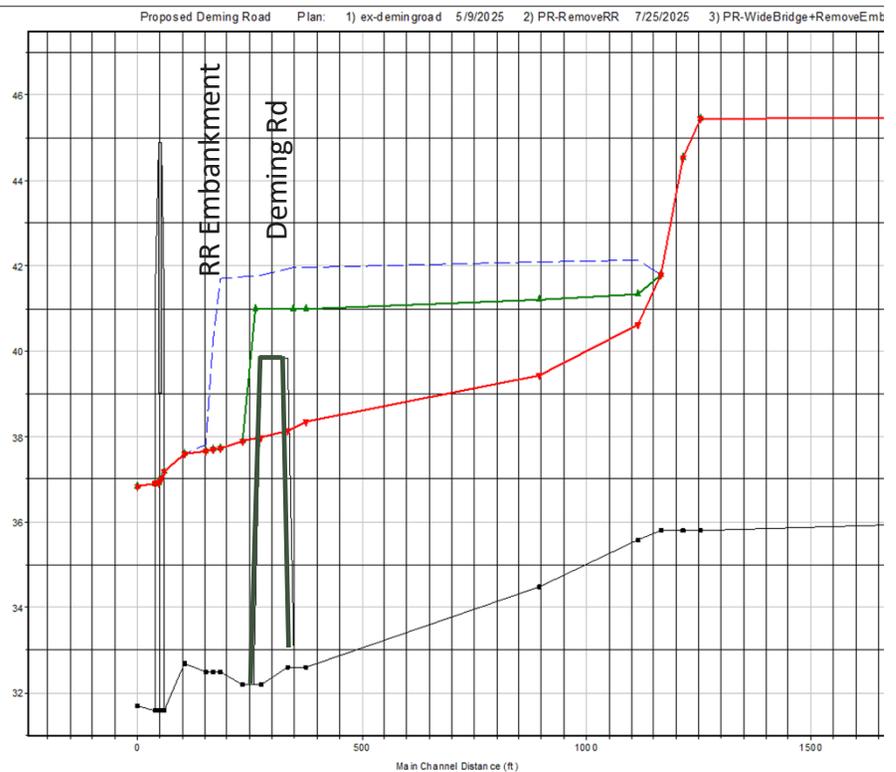
# Priority Site

## Deming Road at Webster Brook, Berlin

**Blue** = Existing Conditions  
**Red** = bridge replacement + removal of railroad abutment/embankment (Option 1)  
**Green** = Removal of railroad abutment/embankment only (Option 2)



10-yr recurrence  
interval



100-yr recurrence  
interval

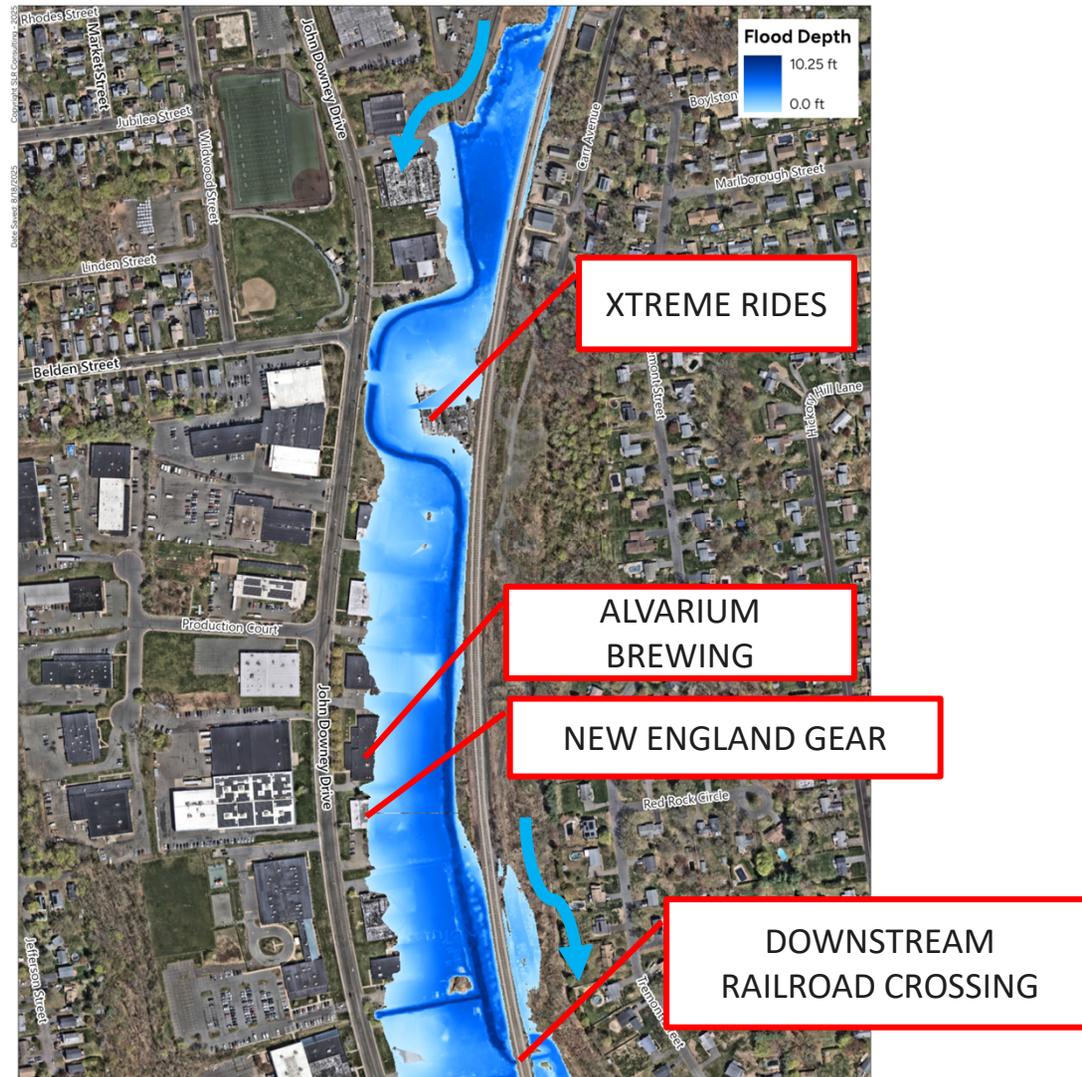


# Priority Site

## Railroad Crossing

Impacts across  
multiples sites along  
John Downey Drive

Existing Conditions,  
100yr Flood







# Priority Site

John Downey Drive - Alvarium





## Priority Site

Alvarium Brewery,  
John Downey Drive,  
New Britain  
(Concept Design)



**Proposed Measure:**  
Floodplain Bench

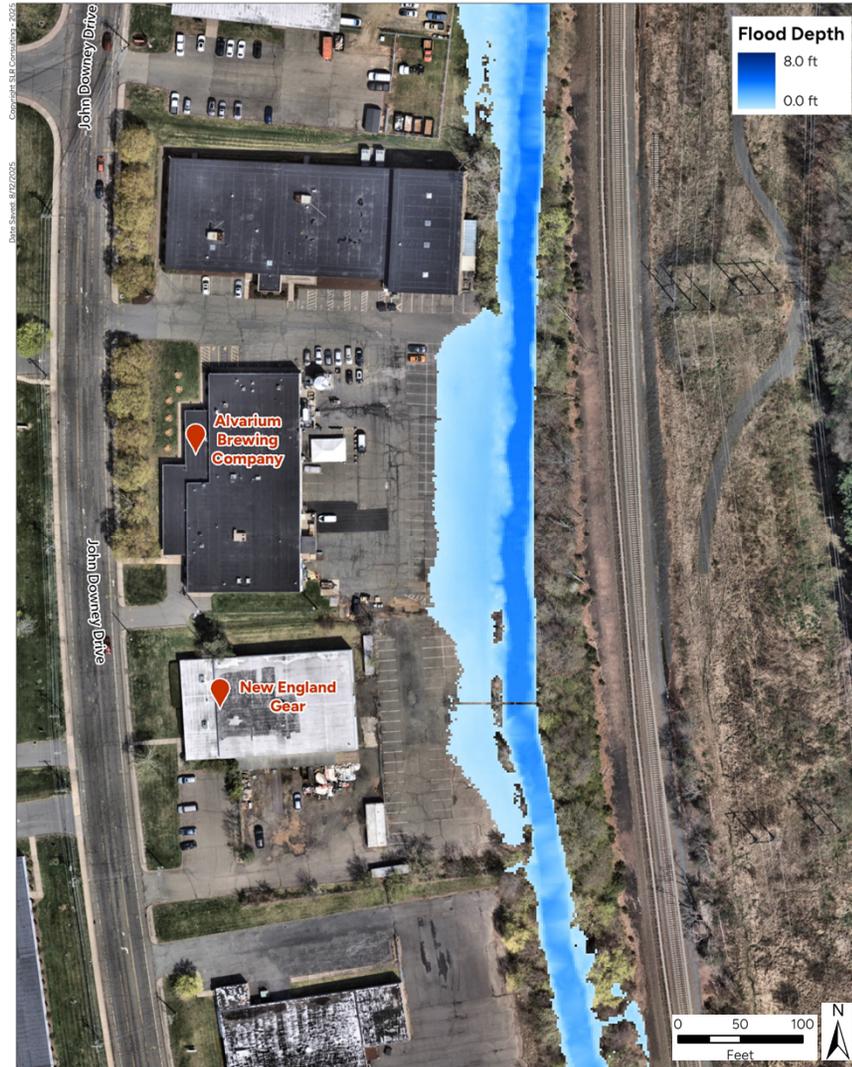
**Cost Opinion:**  
~\$ 850,000



# Priority Site

Alvarium Brewery,  
John Downey Drive,  
New Britain

Existing Conditions,  
between 2- and 10- yr  
Flood





# Priority Site

Alvarium Brewery,  
John Downey Drive,  
New Britain

Proposed Floodplain  
Bench, between 2- and  
10- yr Flood

