

Flood Mitigation

Update

June 2026

v.1

Project and Program Overview

VILLAGE OF MAMARONECK

FLOOD MITIGATION UPDATES

- This presentation has been edited for time. For additional presentation content and updates on the Village's efforts to mitigate flooding, visit the Village of Mamaroneck official website www.villageofmamaroneckny.gov
- Select the *Flood Mitigation* icon
- On the *Flood Mitigation* page are links to the presentations and flood studies:
 - Strategy and Infrastructure Projects
 - Programs and Non-Infrastructure Projects
 - Funding and Grants
 - Next Steps
 - US Army Corp. of Engineers
 - Resilient NY



FLOOD HAZARD VULNERABILITY



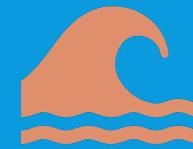
Stormwater

Aging and undersized infrastructure is not able to handle extreme rainfall events. Groundwater in some neighborhoods exacerbates flooding when combined with sustained rainfall



Riverine

Channel capacity, width, alignment and obstruction prevent stormwater from upstream communities and the village to flow into the Long Island Sound during sustained and extreme rainfall events



Coastal

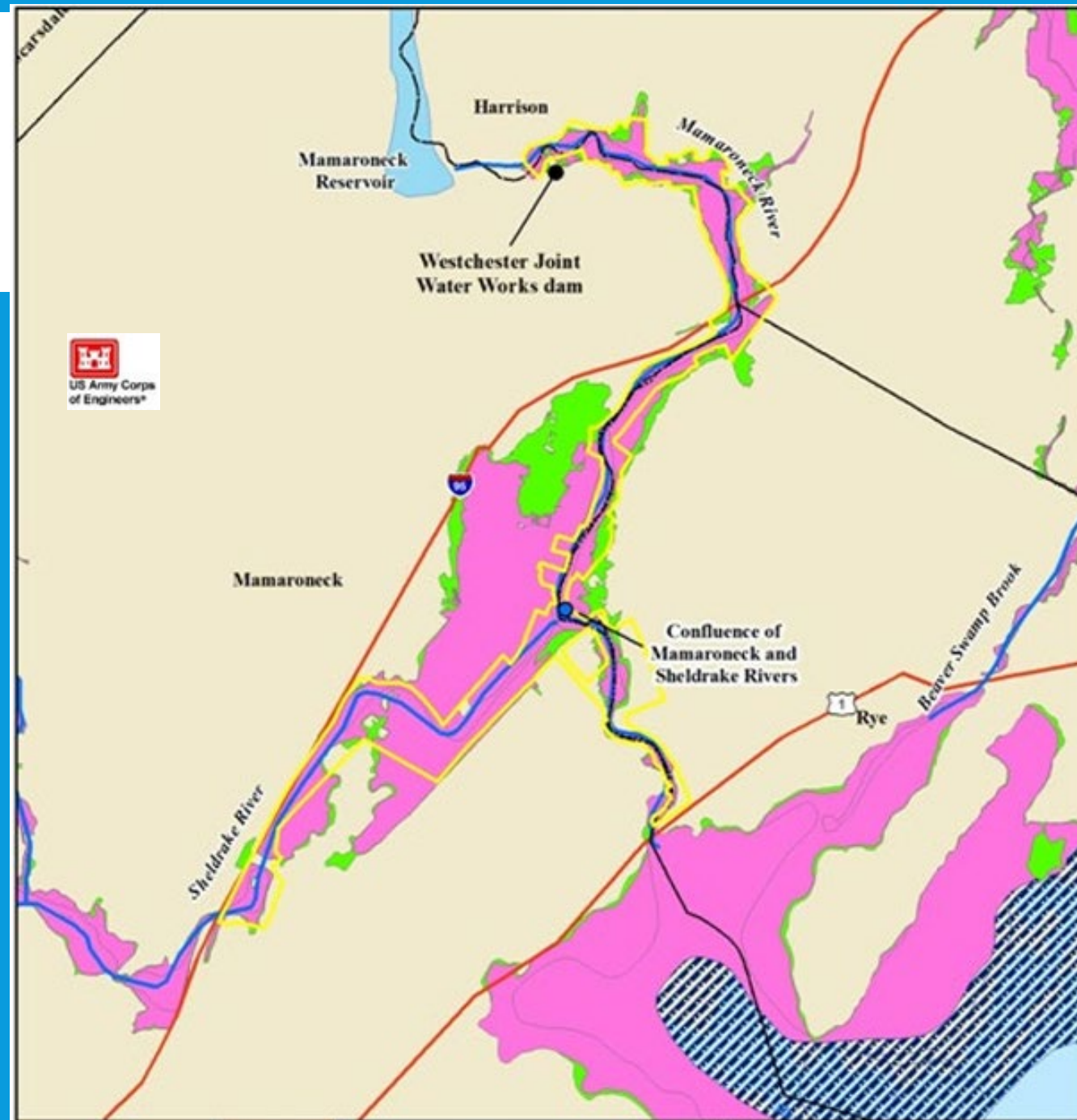
Sea-level rise projections indicate that the coastal flood hazard will worsen. The village is vulnerable to coastal storms, including nor'easters and hurricanes that cause coastal inundation and wave action

FLOOD ZONES

PINK: 100-Year Floodplain

GREEN: 500-Year Floodplain

- The 100-Year Flood is an extreme flooding event that statistically has a 1% (1:100) chance of exceeding the Base Flood Elevation in any given year. That does not mean a flood of that magnitude only occurs once a century
- Over a 30-year mortgage, a home in a 100-year floodplain carries a 26% chance of experiencing at least one flood of this magnitude (USGS)



US ARMY CORPS OF ENGINEERS

- In response to the devastating Sound Shore Flood of 2007, the USACE was engaged to re-evaluate prior flood mitigation studies from 1977 and 1989
- A Design Agreement was signed between USACE, New York State Department of Environmental Conservation (DEC) and Westchester County in 2010
- The USACE General Reevaluation Report was completed in 2017
 - Herein referred to as the “Army Corps Plan”
- In 2021 the village experienced catastrophic flooding as the result of the remnants of Hurricane Ida and several subsequent flash floods
- In 2025 the Village and Westchester County signed an Intermunicipal Agreement (IMA) to advance the replacement of the Ward Avenue Bridge, a project in the Army Corps Plan

RESILIENT NY

- New York State Department of Environmental Conservation (DEC) established the Resilient NY program in November 2018
- The intent of the Resilient NY program is to make communities resilient to flooding and adapt to extreme weather events brought on by climate change
- Communities within Resilient NY study areas are eligible for implementation support including funding for recommended projects
- Grants for implementation of study recommendations are available from New York State and emphasize nature-based (“green”) solutions

VILLAGE FLOOD MITIGATION STRATEGY

- Removing channel restrictions and improving flood flow conveyance in the lower Mamaroneck River and lower Beaver Swamp Brook are essential first steps to a Downstream to Upstream approach
- Not doing so could result in exacerbated flooding conditions downstream, once channel improvements and removal of channel obstructions are completed, increasing the flow of water downstream, where it may be restricted by narrow channel openings or inadequate channel capacity
- Channel improvements at the confluence are also essential, as unimpeded flood flow and capacity contribute to the conveyance of floodwaters to the lower Mamaroneck River, and to prevent backwater on the upper Mamaroneck River and the Sheldrake River

US ARMY CORPS OF ENGINEERS

- Components of the Army Corps Plan:
 - *Remove/Replace the Ward Avenue Bridge*
 - ~~Remove/Replace the Waverly Avenue Bridge~~
 - Construction of a culvert under the Jefferson Ave. Parking Lot
 - Remove the Center Avenue Footbridge
 - Remove/Replace both Footbridges in Columbus Park
 - Channel improvements and retaining walls on the Mamaroneck River
 - Channel improvements and retaining walls on the Sheldrake River
 - Non-Structural measures in Harbor Heights

VILLAGE FLOOD MITIGATION STRATEGY

- The Village's strategy is guided by the Resilient NY studies and the Army Corp. Plan
- The Village's strategy is focused on:
 - the lower Beaver Swamp Brook (E. Boston Post Road to Guion Creek),
 - the Sheldrake River (Fenimore Road to The Mason),
 - the Mamaroneck River (Metro North to the Boston Post Road Overpass),
 - the Confluence (Columbus Park),
 - Mamaroneck Harbor, and
 - drainage improvements village-wide

VILLAGE FLOOD MITIGATION STRATEGY

- USACE would still be relied upon to complete all projects not currently funded:
 - Channel improvements/Retaining walls on the Sheldrake River
 - Emphasis on the river channel that runs adjacent to Hoyt Ave.
 - Channel improvements/Retaining walls on the Mamaroneck River
 - Emphasis on the river channel upstream of the Confluence
 - Non-Structural measures in Harbor Heights
- Future projects on the upper Mamaroneck River under consideration (non-ACE)
 - Coordination with Harrison on the removal of the Winfield Avenue Bridge
 - Coordination with Harrison on the removal of a section of Glendale Road
 - Coordination with WJWW on the future of the Mamaroneck River Dam

STATE ENVIRONMENTAL QUALITY REVIEW ACT (SEQRA)

- New York State law that requires local governments to assess the potential environmental, social, and economic impacts of any discretionary action - such as funding, permitting, or approving a project - before it proceeds.
- The Village is in the process of an environmental review for various flood mitigation projects in compliance with SEQRA. This process is not voluntary or optional.
- Completing the SEQR review is a condition of receiving State grant funds.
- The Village Board of Trustees is designated as the Lead Agency to Coordinate the review with Involved Agencies to determine the Significance of the impacts.

MAMARONECK RIVER

- Tompkins Avenue Bridge
- Ward Avenue Bridge
- Lower Mamaroneck River Floodplain Bench

TOMPKINS AVENUE BRIDGE

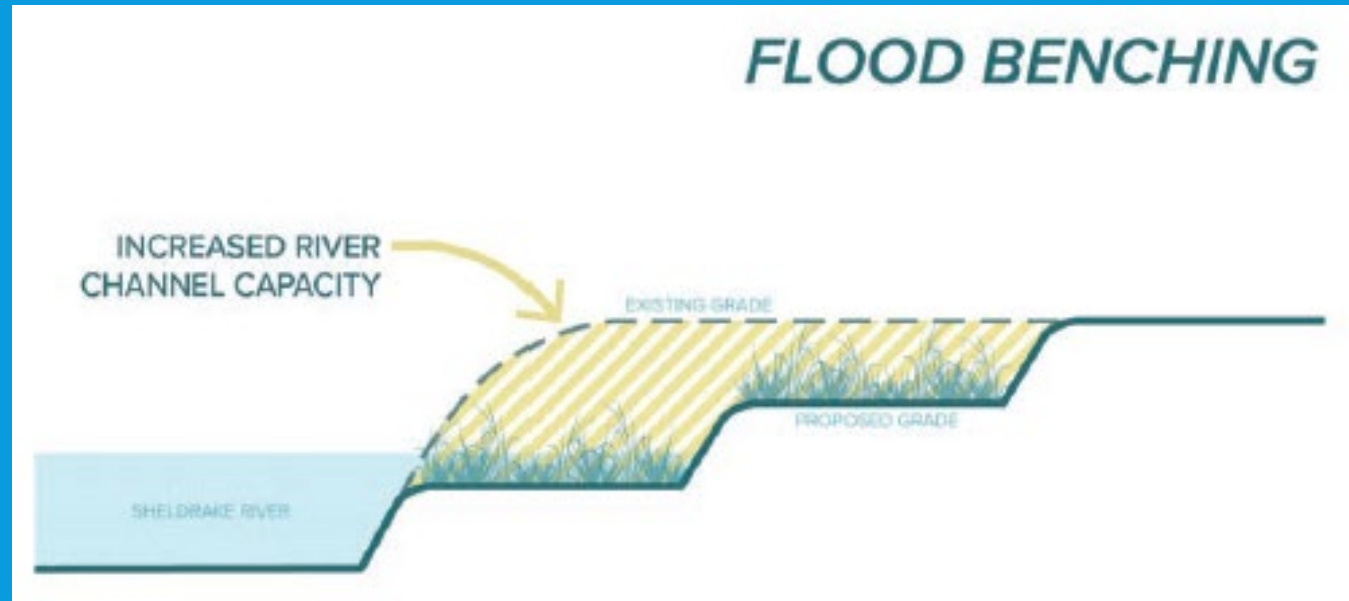


WARD AVENUE BRIDGE



FLOODPLAIN BENCHING

- A Floodplain Bench can reduce flood risk by adding channel capacity to lower water levels and reduce flow velocity during high flow events
 - Floodplain Benches are commonly used at bends in an active stream channel
 - The Floodplain Bench is vegetated to reduce erosion and improve water quality



Orientation:

*River Left and River Right are
as if you were looking
Downstream*

LOWER MAMARONECK RIVER FLOODPLAIN BENCH



Upstream of Ward Avenue Bridge



Downstream of Ward Avenue Bridge

LOWER MAMARONECK RIVER FLOODPLAIN BENCH



CONFLUENCE

- River Maintenance
- Columbus Park Floodplain Bench
- Station Plaza Bridge
- Floodplain Restoration and Channel Alignment

CONFLUENCE



CONFLUENCE



COLUMBUS PARK FLOODPLAIN BENCH



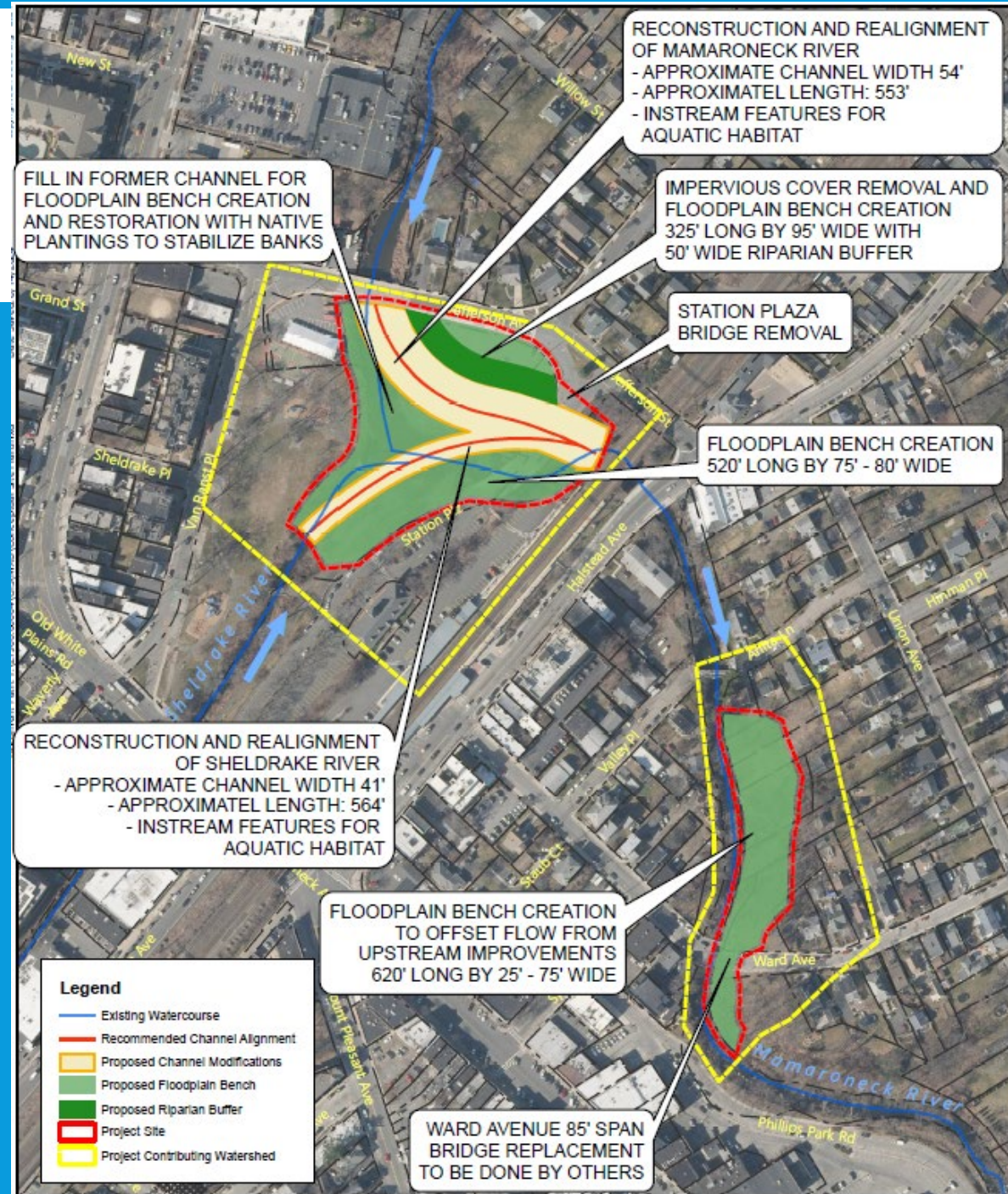
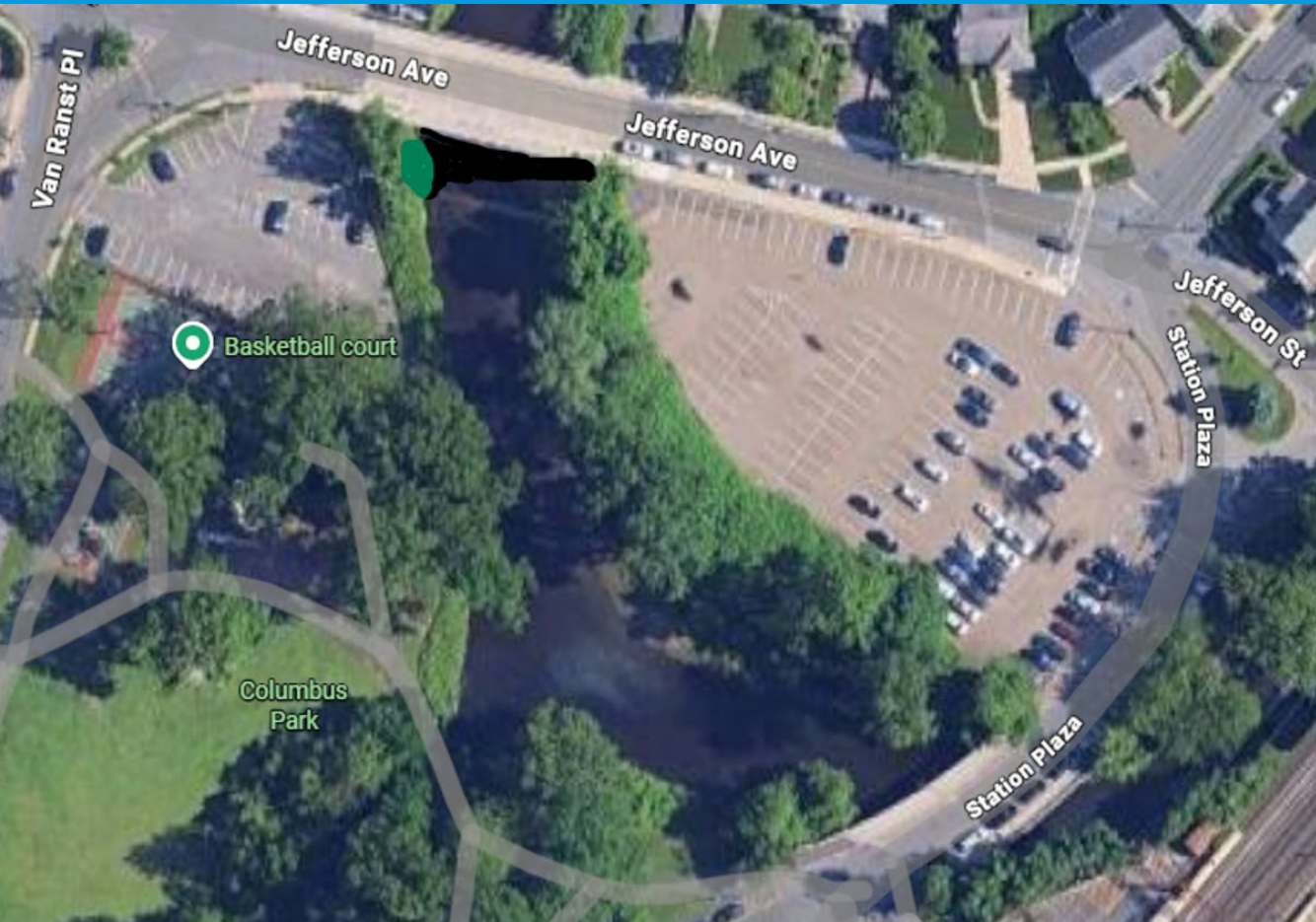
STATION PLAZA BRIDGE



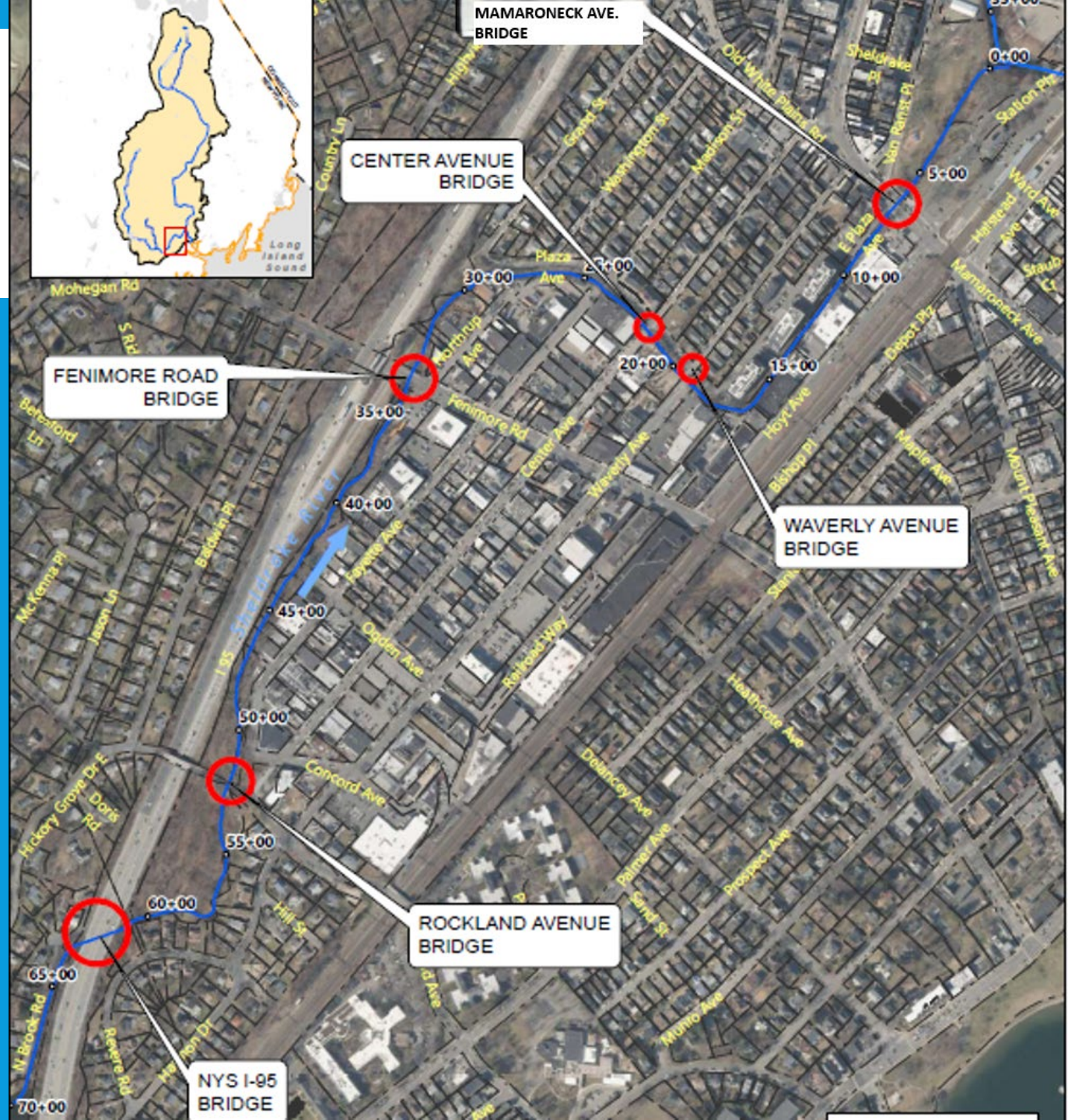
METRO NORTH RAILROAD BRIDGE



HIGH RISK AREA - 1



HIGH RISK AREA - 4



SHELDRAKE RIVER

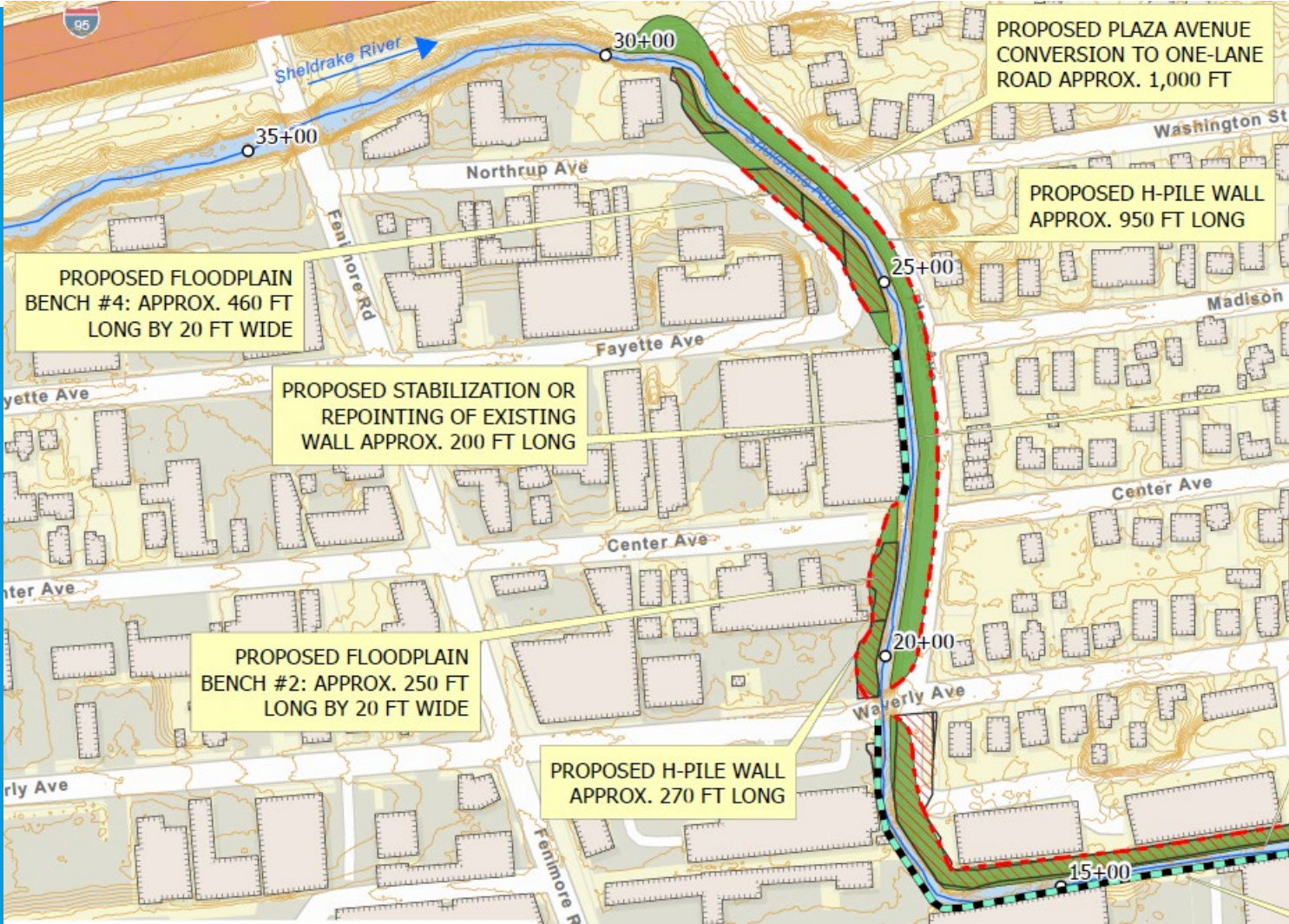
- Center Avenue Footbridge
- Sheldrake River Channel Improvements

- Awarded a grant from the Hudson Valley Greenway to perform a Feasibility Study on the proposed Mamaroneck Greenway, and assess the proposal's flood mitigation value as a "floodable linear park" on the Sheldrake River (Resilient NY study)
 - Phase 1 is .6 miles between Fenimore Road and Rockland Avenue (adjacent to I-95)

CENTER AVENUE FOOTBRIDGE



SHELDRAKE RIVER CHANNEL IMPROVEMENTS



SHELDRAKE RIVER CHANNEL IMPROVEMENTS



<<<<

Turn in river at Bub Walker Park

>>>>

Turn in river at The Mason

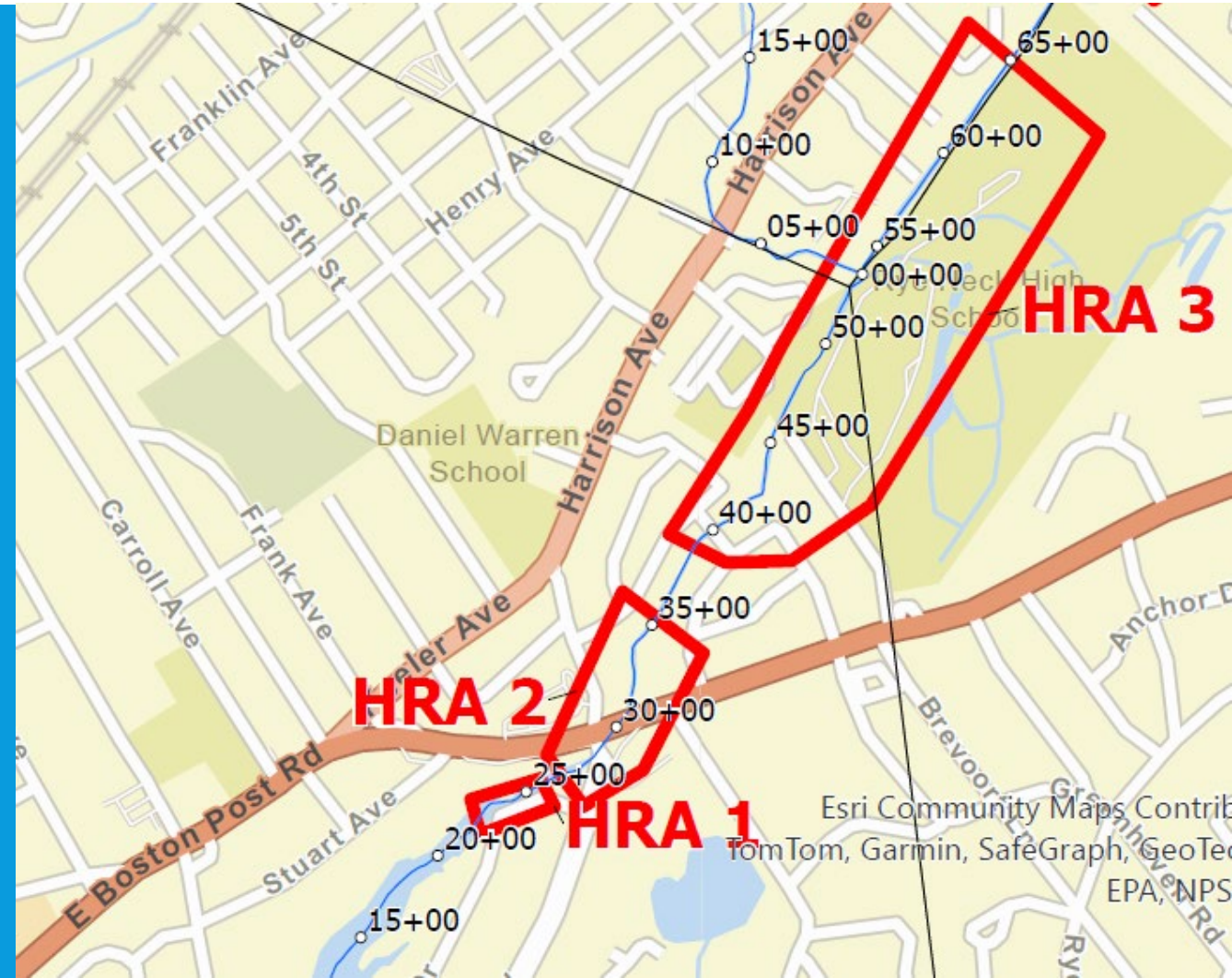


HIGH RISK AREA - 4



BEAVER SWAMP BROOK

- Guion Creek Pedestrian Bridge
 - (HRA-1)
- East Boston Post Road Culvert
 - (HRA-2)



GUION CREEK PEDESTRIAN BRIDGE



EAST BOSTON POST ROAD

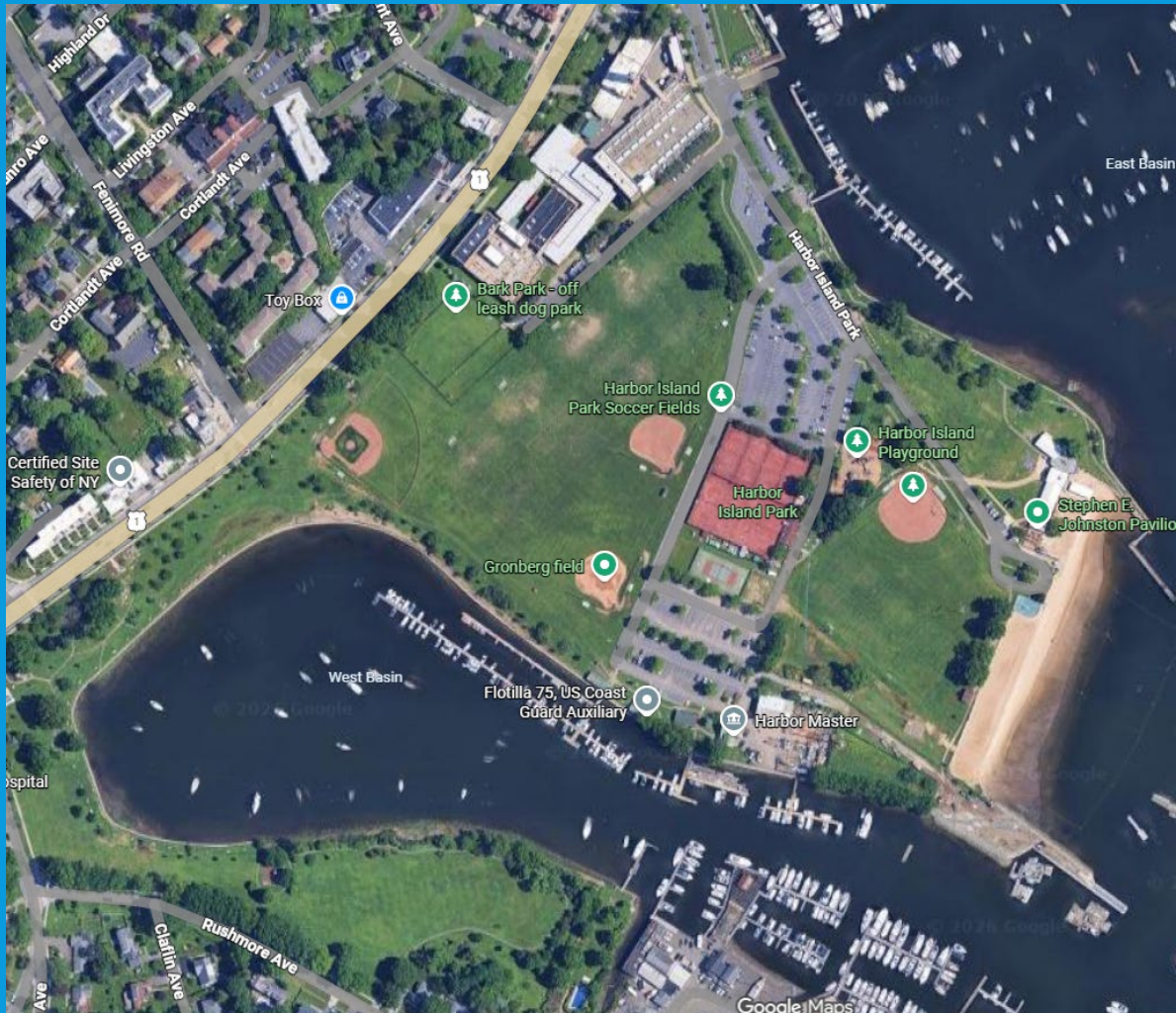
CULVERT



PLATFORM



LONG ISLAND SOUND



West Basin Salt Marsh

MAMARONECK HARBOR SEA WALL

EAST BASIN



WEST BASIN



FLOOD MITIGATION PROGRAMS

- Project Inventory and GIS Mapping
- Flood Mitigation Committee
- Inter-Municipal Partnerships
- Inter-Agency Partnerships
- Village Stormwater Code
- Land Use and Code Enforcement
- Catch Basin Inspection and Cleaning
- Stream Gauge Program
- Drainage Improvements
- Home Elevations and Buyouts

EMERGENCY MANAGEMENT

- Public Outreach and Education on Disaster Preparedness
- All-Hazards Emergency Planning
- Training and Exercise
- Pre-Storm Coordination
- Emergency Operations
- Disaster Response Equipment
- Public Alert and Warning / Public Information
- Disaster Recovery, Damage Assessment and Debris Management
- Coastal Storm Preparedness and Evacuation Study
- Hazard Mitigation and Resiliency Planning

NATIONAL FLOOD INSURANCE PROGRAM (NFIP)

- The village participates in the NFIP to make flood insurance policies accessible to property owners, renters and businesses.
 - Most homeowners' insurance policies do not offer flood coverage
 - Buildings in high-risk flood areas with mortgages from government backed lenders are required to have a flood insurance policy
 - As a participant in NFIP, the village is required to adopt and enforce floodplain management regulations to prevent and reduce flood loss
- Visit the village's official website to learn more about flooding and the NFIP
 - Online and Print materials are available in English and Spanish

NATIONAL FLOOD INSURANCE PROGRAM (NFIP)

- **Community Rating System (CRS)**
 - The village participates in the CRS, which is a voluntary incentive program that recognizes community floodplain management practices that exceed the minimum requirements of the NFIP by offering discounts on flood insurance premiums
 - In 2014, the Village received a determination from FEMA to join the CRS program
 - The village's rating is an "8", which means that many residents will receive up to a 10% reduction on all flood insurance premiums effective after October 1, 2014
 - Additional information on flood damage reduction is available from the Building Department and the Engineering Department

FLOOD DAMAGE REDUCTION FOR PROPERTY OWNERS

- Private property owners play a substantial role in reducing flood risk in the community and reducing flood damage to their own property
 - Elevate utilities (electrical panels, HVAC units, water heaters, appliances, etc.)
 - Install flood vents (wet floodproofing of foundation walls and garages)
 - Dry Floodproofing (waterproof coatings and sealants, barriers/sandbags, etc.)
 - Drainage improvements (clear blocked drains, install rain gardens/rain barrels, etc.)
 - Interior modifications (consider the risk of finishing a basement)
- Summer thunderstorms increase the village's risk for flash flooding. Hurricane season in the Atlantic began June 1st. Take the opportunity now to get prepared for severe weather and visit FEMA's website to learn how: www.ready.gov

FLOOD MITIGATION FUNDING

- **Grants**
 - Submitted 30 grant proposals in 2025
 - Submitted 12 proposals to targeted grant programs for flood mitigation
 - 6 proposals were awarded funding for flood mitigation
 - Additional proposals to be prepared for submission in 2026
- **Capital Budget**
 - Grants are based on reimbursement. Budget line items in the village's Capital Budget allow the village to fund the work upfront
 - Capital funds are often used to meet the local cost share requirement for a grant
 - Capital funds also allow the village to proceed with priority flood mitigation projects that are ineligible for grant funding or are not awarded grant funds

GRANTS AWARDED (2022-2024)

Grantor	Program	Project	Award	Match	Total
NYS HCR	RISC	P/E/D for Guion Creek Ped. Bridge	\$200,000	\$0	\$200,000
NYS DOS	LWRP	P/E/D for Harbor Sea Wall	\$450,000	\$150,000	\$600,000
NYS EFC	GRG	Floodplain Benches, Station Plaza Bridge	\$6,600,000	\$733,333	\$7,333,333
					\$8,133,333

Total Grant Funds Awarded: \$7,500,000

Total Local Cost Share/Match: \$933,333

GRANTS AWARDED (2025)

Grantor	Program	Project	Award	Match	Total
NYS DEC	RWG	Center Ave. Bridge, Sheldrake Channel	\$5,203,750	\$520,375	\$5,724,125
NYS DEC	RWG	Confluence and Columbus Park	\$2,990,000	\$299,000	\$3,289,000
NYS DEC	RWG	Tompkins Ave. Bridge	\$1,782,500	\$178,250	\$1,960,750
NYS DEC	CSC	Flood Gauges, Emergency Prep.	\$115,304	\$115,304	\$230,608
HRVG	Community	Greenway Feasibility Study	\$15,000	\$15,000	\$30,000
					\$11,234,483

Total Grant Funds Awarded: \$10,131,554

Total Local Cost Share/Match: \$1,127,929

GRANT FUNDING PROPOSALS SUBMITTED

(YTD 2026)

- **Senator Schumer**
 - **Mamaroneck River**
 - **Replace the Tompkins Avenue Bridge**
- **Senator Gillibrand**
 - **Mamaroneck River**
 - **Replace the Tompkins Avenue Bridge**
- **Congressman Latimer**
 - **Beaver Swamp Brook**
 - **Replace Guion Creek Pedestrian Bridge**

GRANT FUNDING PROPOSALS PLANNED

(YTD 2026)

- **NYS HCR (HUD) – RISC Program**
 - **Mamaroneck River**
 - **Replace the Tompkins Avenue Bridge**
- **NYS DOS – Inland Flooding Program**
 - **Beaver Swamp Brook**
 - **Guion Creek Pedestrian Bridge**
- **NYS DEC – Climate Smart Communities**
 - **Confluence**
 - **Feasibility Study for a “Resiliency Park”**

NEXT STEPS

- **US Army Corp. of Engineers**
 - Participate in stakeholder meetings
 - Coordinate Resilient NY/State funded projects
 - Support ACE pre-construction activities
 - Right of Entry Agreement
 - Geotechnical Analysis
 - Historic, Cultural and Archeological Assessment
- **Flood Mitigation Project Inventory**
 - Convert the inventory to a GIS map
- **Emergency Preparedness**
 - Hire a consultant to develop an Emergency Plan
 - Conduct a public preparedness presentation
- **Training and Exercise**
 - Hire a contractor to train emergency responders

NEXT STEPS

- **Public Alert and Warning**
 - Fully implement the Everbridge notification system
- **Hazard Mitigation Plan Update**
 - Continue to participate in the county planning effort
- **Hurricane Evacuation Study Update**
 - Continue to participate in the State planning effort
- **Stormwater Regulation**
 - Implement and Enforce the new Stormwater Law
- **Stormwater Management**
 - Start the contractor cleaning catch basins

NEXT STEPS

- **Drainage Improvements**
 - Complete the project at Jefferson Ave/Wood Street
 - Consider next steps for Washingtonville/IA drainage
- **Grants**
 - Complete pre-agreement activities for all grants
 - Reach grant agreements with NYS for all grants
 - Develop and submit additional grant proposals
- **State funded projects**
 - Complete SEQR, satisfy NYS SHPO
 - Begin pre-construction activities at all project sites
 - P/E/D for demolition of Tompkins Ave. Bridge
 - P/E/D for the Lower Mamaroneck Floodplain Bench
- **River Maintenance**
 - Complete planning and permitting
 - Hire a contractor to remove and dispose of material

NEXT STEPS

- **Ward Avenue Bridge**
 - Collaborate with County on P/E/D and pre-construction
 - Complete SEQR, Permitting and Land Acquisition
- **Greenway**
 - Hire a consultant to complete a Feasibility Study
- **Guion Creek Pedestrian Bridge**
 - Begin pre-construction activities and P/E/D
- **E. Boston Post Road at The Parkway**
 - Advocate to NYSDOT to replace the culvert
- **Harbor Sea Wall**
 - Begin pre-construction activities and P/E/D

THANK YOU

Dennis Delbordo
Assistant Village Manager