

High Street Dam (aka Jenkins Dam) Removal and Bridge Replacement Project

As of June 15, 2023, the bridge crossing the Town River near 151 High Street will be removed and High Street will be closed at that location. The road at that location will be closed until mid-October.

Below is a brief history of the project and more information.

Project Narrative

Funding

Since 2017 the Town Manager has worked with the Massachusetts Division of Ecological Restoration and numerous state and federal partners to plan and fund the dam removal and bridge replacements project on High Street near the Lincoln Athletic Club and the entrance to the Town’s Roadways Department. This effort has raised over \$8 million to completely offset the cost to local taxpayers.

Grant funders include:

		Amount
STATE	EXECUTIVE OFFICE OF ENERGY&ENVIRONMENTAL AFFAIRS - EEA DAM & SEAWALL	\$ 1,000,000.00
STATE	MUNICIPAL VULNERABILITY PREPAREDNESS PROGRAM - MVP	\$ 750,000.00
STATE	DEPT OF FISH&GAME: DER-DIVISION OF ECOLOGICAL RESTORATION	\$ 2,550,000.00
LOCAL	WILD & SCENIC TAUNTON RIVER STEWARDSHIP COUNCIL - (TRSC) / SRPEDD	\$ 40,000.00
LOCAL	THE NATURE CONSERVANCY - TNC	\$ 60,000.00
FEDERAL	NATIONAL FISH & WILDLIFE FOUNDATION - NFWF COASTAL RESILIENCE	\$ 2,285,000.00
LOCAL	DAMN OWNER	\$ 10,000.00
FEDERAL	US FISH AND WILDLIFE SERVICE	\$ 1,550,000.00
		\$ 8,245,000.00

Statement of Need:

The Town of Bridgewater, in partnership with the Massachusetts Division of Ecological Restoration (DER), the Massachusetts Division of Marine Fisheries (DMF), the Nature Conservancy (TNC), the private dam owner, the NOAA Restoration Center, and the U.S. Fish and Wildlife Service, seeks to restore the Town River. The Town River Restoration project will restore and strengthen natural ecosystems for the benefit of the coastal community and the environment. The project is situated in Bridgewater, Massachusetts on a historic mill site that has since been converted to public open space (Stanley Iron Works Park). Town River is a major tributary to the federally designated Wild and Scenic Taunton River, found by Congress to possess “important resource values (including wildlife, ecological, and scenic values), historic sites, and a cultural past important to the heritage of the United States.” The removal of the High Street Dam and replacement of the High Street Bridge is part of an on-going multi-partner effort and comprehensive watershed-based strategy to improve coastal ecosystem resilience in the region by connecting the major tributaries of the Wild & Scenic Taunton River with the main stem, Mount Hope Bay, Narragansett Bay, and the Atlantic Ocean. The project will reconnect 10 miles (including tributaries) of unimpeded river access for diadromous fish, including river herring, American shad, American eel, and sea lamprey. The project will open 354 acres of river herring spawning and rearing habitat at Lake Nippenicket.

Project Goals and Objectives:

The project proposes to remove the High Street Dam (National ID MA00327), replace the undersized and aging High Street road-stream crossing over Town River, and protect and enhance surrounding infrastructure and public utilities. The High Street Dam was constructed circa 1919 and has outlived its intended use. It has numerous structural deficiencies, and in 2011 was rated in “unsafe” condition and Significant hazard. The dam obstructs fish passage and natural river processes. The High Street Dam jeopardizes the upstream High Street road-stream crossing, were it to fail. The High Street road-stream crossing was constructed over 200 years ago, and consists of four severely undersized, dry-laid granite clapper culverts with documented structural issues. The crossing does not meet modern Massachusetts design standards or stream crossing standards. The road-stream crossing and dam contribute to localized flooding – floodwaters overtopped High Street and inundated the abutting Lincoln Athletic Association (LAA) building during a March 1968 storm. The project proposes to replace the High Street road-stream crossing with a 55-foot clear span bridge. The proposed design spans the bankfull width of Town River and can pass the 500-year recurrence interval storm including climate change projections through 2070. The project will relocate and stabilize utilities currently carried by the High Street crossing, including a gas line, a water main, and a sanitary sewer line. The project will also stabilize the neighboring LAA building, to ensure there are no negative impacts to its foundation resulting from increased velocities in Town River following dam removal. Modifications to the LAA building have been closely coordinated with the facility’s owners.

Flooding represents a “high-frequency, serious severity hazard” for the towns of Bridgewater and West Bridgewater and is the most frequent hazard affecting the Towns. Flooding may occur as the result of tropical storms, winter storms, nor’easters, and periods of heavy rain. Climate change is exacerbating the threat of flooding to this region by increasing the magnitude and severity of precipitation events. From the 1960s to 2000s, annual precipitation in the Taunton River basin increased by 8.8 inches. Under all representative concentration pathway (RCP) emissions scenarios, total precipitation is expected to continually increase, leading to an additional 4.18 inches of annual rainfall by 2090. The Town River Restoration explicitly accounts for historic and projected effects of climate change to ensure that the benefits of this project are sustained.

This project is the culmination of years of planning, prioritization, feasibility, and design. It is closely aligned with both local and statewide resiliency plans. Project planning specific to this site began in earnest in 2015, followed by its first public meeting in 2016 and subsequent acceptance as a Priority Project by DER. The project team completed a feasibility study in 2017. A key finding of this study was the poor structural condition of the High Street road-stream crossing. In 2018, a second public meeting was held to communicate the findings of the feasibility study. Preliminary design was completed in 2019, followed by a third public meeting in 2020. In 2021, the project team completed final design of the project. As of January, 2023, the project team has secured all final permits.

The Town River Restoration Project will result in measurable improvements to both community and habitat resilience in the Taunton River watershed. This project was identified in the Coastal Resilience Assessment of the Narragansett Bay and Coastal Rhode Island Watersheds, completed by National Fish and Wildlife Foundation in partnership with NOAA, NatureServe, and UNC Asheville. Specifically, this project intends to:

- Restore aquatic connectivity to a critical segment of Town River. This project is the highest-ranked restoration site among 120 locations in Southeastern Massachusetts compiled by the Division of Marine Fisheries' Diadromous Fish Restoration Priority List. It is also ranked in the 90th percentile in DER's Restoration Potential Model, which evaluates the relative ecological benefit of removing any known dam in the Commonwealth. This project will directly open 10 miles of unimpeded access for diadromous fish including river herring, American eel, American shad, and sea lamprey in the Wild and Scenic watershed and improve access to 354 acres of spawning and rearing habitat at Lake Nippenicket.
- Engage governmental and non-governmental agencies in resiliency activities, and transfer of lessons learned. This project proposes to engage seven (7) governmental agencies and six (6) non-governmental agencies in restoration. Government agencies participating include: the Towns of Bridgewater and West Bridgewater, DER, DMF, USFWS, the NOAA Restoration Center, and Old Colony Planning Council. Non-governmental agencies participating include: the Town River Fishery Committee, The Nature Conservancy, the Narragansett Bay Estuary Program, Save the Bay, the Taunton River Watershed Alliance, and the Advance Pollution Control Corporation (dam owner). All entities will be invited to participate in regular construction meetings. Project partners will be actively engaged in the post-construction monitoring, and results of monitoring efforts will be distributed to the team. Further, results from monitoring efforts will influence DER's statewide outreach strategy and inform future dam removal projects that DER is involved with.
- Protect people and property from increasingly severe flooding resulting from climate change. Flooding is identified as the most frequent hazard affecting the towns of Bridgewater and West Bridgewater in the towns' Natural Hazard Mitigation Plan. Road-stream crossing replacement and dam removal are prioritized actions to improve climate resiliency in the Massachusetts State Hazard Mitigation and Climate Adaptation Change Plan. This project was identified as a "high" priority in the Town of Bridgewater's Municipal Vulnerability Preparedness Plan. As a direct result of this project, 37 commercial and residential properties that border the High Street Dam's impoundment will experience a reduction in flooding during severe storms.

Stakeholder Coordination/Involvement:

This project has undergone a robust stakeholder engagement process. The project team has held three (3) public meetings over the course of five years to provide updates to the community on the status of the project and solicit community feedback. These meetings were held in addition to public hearings required as part of project permitting during both the MEPA and Notice of Intent processes.

The project team has been in regular and active communication with the abutting Lincoln Athletic Association (LAA) and upstream West Bridgewater golf course to minimize impacts to their operations following dam removal. Through consultations with both parties, it was determined that dam removal

will have no effect on the operations of the West Bridgewater golf course. Appropriate measures to ensure the long-term stability of LAA's building were determined in consultation with LAA and a structural engineer and are included in the construction drawings for this project.

The project is located within a state-listed historic area. The Town of Bridgewater formed an ad-hoc committee to solicit feedback from relevant town stakeholders as part of the Section 106 process. This committee represented several Town committees with a particular interest in the project, including: Community and Economic Development, the Historic Commission, the Open Space Committee, and the Community Preservation Committee. Recommendations from this committee were ultimately included in the Project's Memorandum of Agreement (MOA). Following project construction, several kiosks will be designed by Town committee members and installed in the neighboring Stanley Iron Works Park to recognize the unique historic character of the site, and its importance to the Town of Bridgewater.

As part of the Town of Bridgewater's Municipal Vulnerability Preparedness Program, the Town organized a collaborative process to inform citizens of the risks associated with climate change to their community and develop solutions to mitigate those risks. Information about the impacts of development and climate change on local flood risk was shared with citizens and officials during two 4-hour workshops used to develop the Town's Municipal Vulnerability Preparedness Plan. The Town River Restoration was selected as a high priority project to improve climate resilience to flood impacts, maintain timely emergency services, and protect fish and wildlife habitat. This is a community-driven project, and a priority at both the local and state levels.

Project Monitoring and Evaluation:

Monitoring. The Project team will monitor the success of the proposed restoration. Restoration success will be measured by the desired outcomes. Monitoring results from the first year of post-restoration monitoring will be reported to USFWS. Specific monitoring activities proposed include:

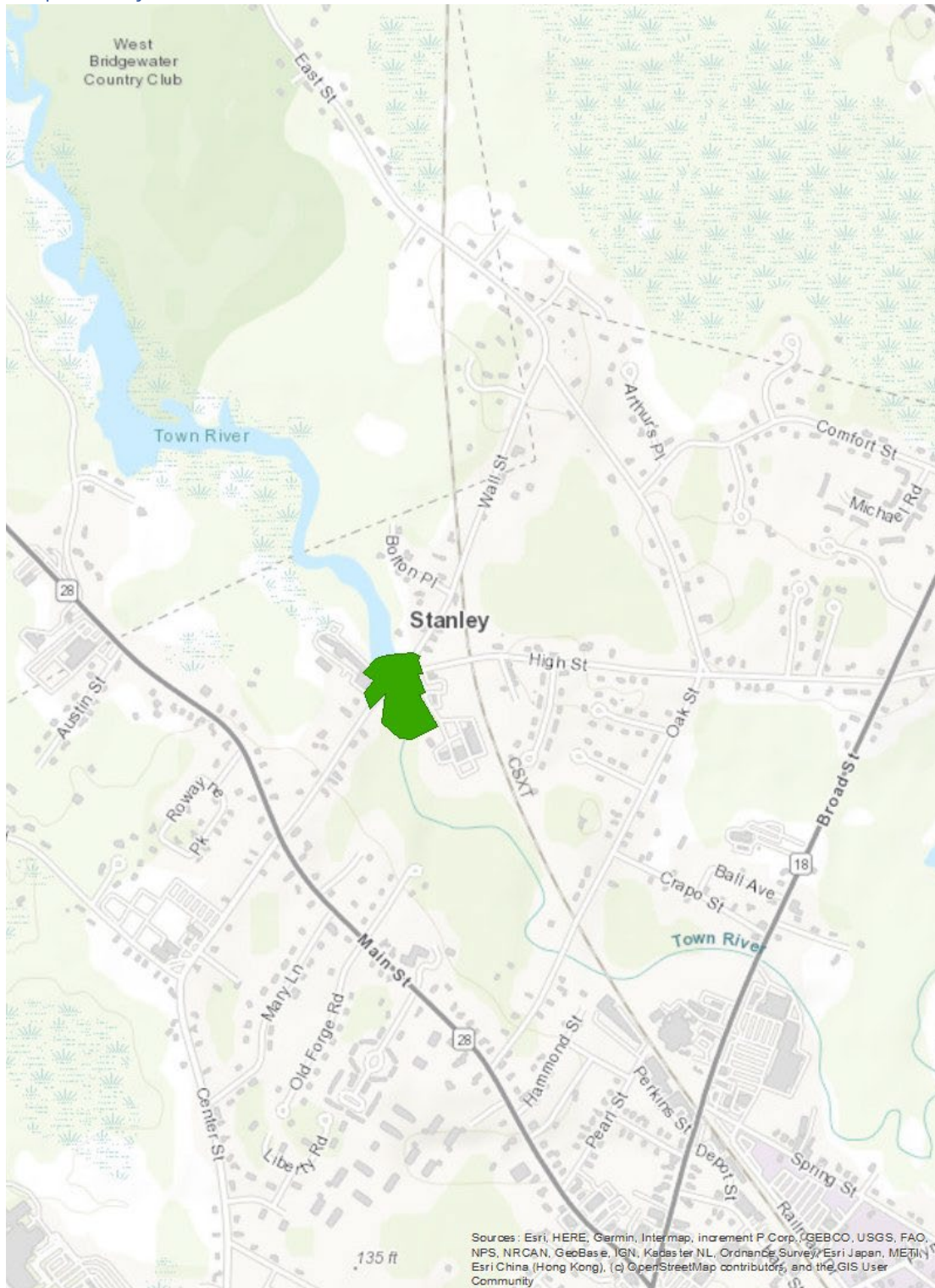
- Safety hazard reduction assessment: The project team will submit a hazard class change application to the Office of Dam Safety demonstrating the elimination of the dam's hydraulic effects, as well as public safety risks posed by an uncontrolled failure of the dam.
- Channel Dimension and Stability Monitoring: The project team will conduct an as-built survey following construction. During this survey, monumented cross-sections and a longitudinal profile will be established. Methods used will conform with established protocols described in the Stream Barrier Removal Monitoring Guide, developed by the Gulf of Maine Council on the Marine Environment.
- Photo Stations: Locations to take repeat photographs will be established prior to construction, in accordance with accepted monitoring protocols. A photo log will be provided to USFWS that includes one pre-construction photo, one mid-construction photo, and one post-construction photo for 8 locations within the worksite. Photos will visually document the river's response to removal of the two barriers.

- Post-construction fish passage monitoring: The as-built plans (described above) will clearly depict constructed conditions of the dam removals in the new river channel, including channel widths, channel slope in profile, and approximate channel thalweg water depths during river herring passage season (March 15-June 30). As-built plans will indicate conformance with proposed design and river herring passability criteria and submitted to USFWS. The project team intends to work collaboratively with the Town River Fishery Committee and appropriate regulatory agencies to develop a presence / absence monitoring plan for river herring.

Sustainability:

The Project Team will expand on the USFWS tracking metrics by completing additional monitoring metrics in accordance with NOAA Restoration Center's Tier I guidance and the Gulf of Maine Council's Stream Barrier Removal Guide. The project includes measurable goals that can be used to evaluate the success of the project and if it was executed as designed and intended.

Map of Project Area:



Site Map 1: Town River Restoration - High Street Dam & Bridge Project Area

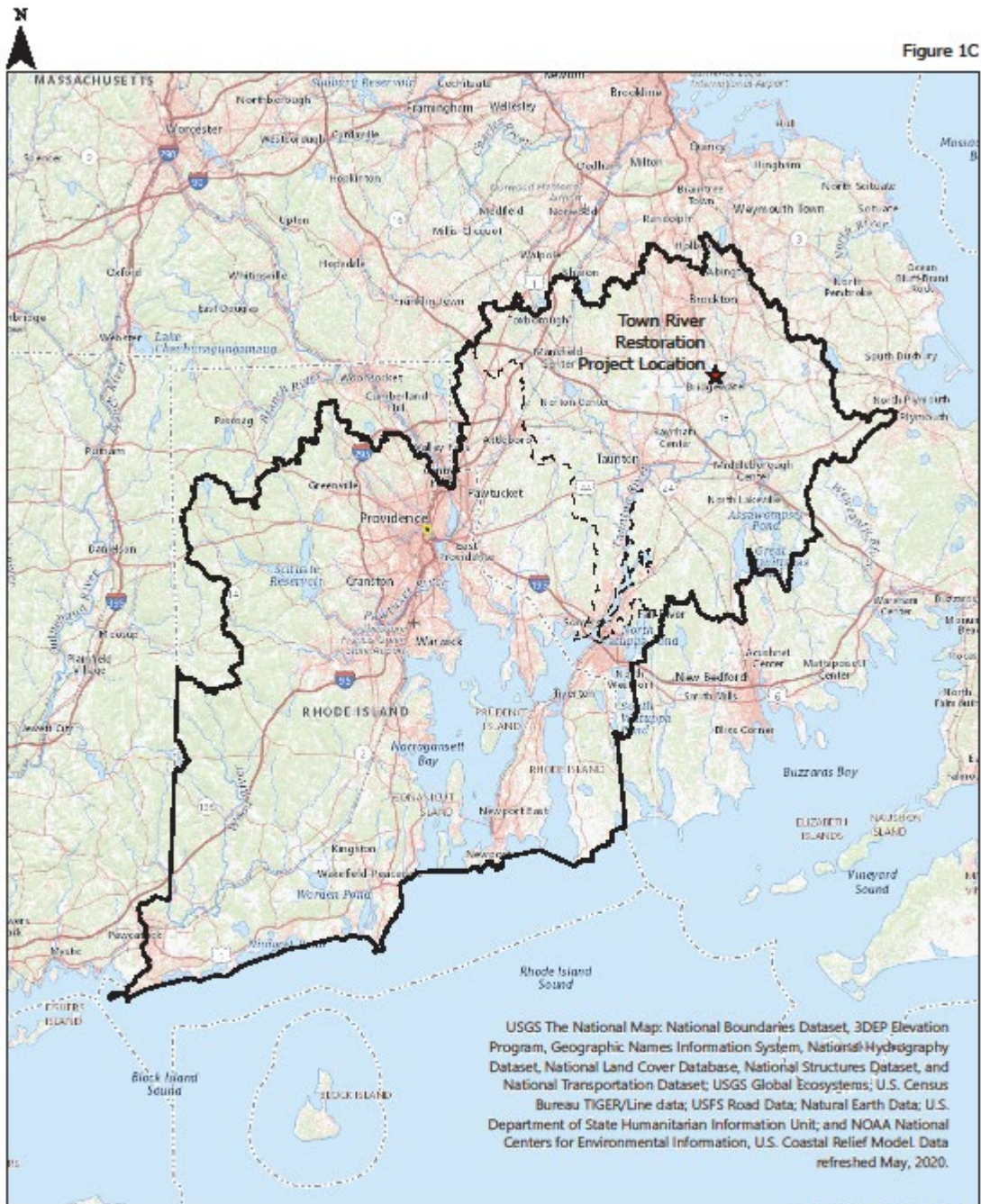


Town River Restoration Project Locus Map

1,000 Feet



Figure 1C



- ▬ Narragansett Watershed Boundary
- - - Taunton River Watershed Boundary

Town River Restoration
Bridgewater, MA
Watershed Map

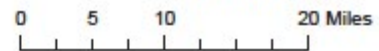


Figure 2

