



## Replacement of the Sword Street Crossing at Kettle Brook



2021

## PROJECT BACKGROUND

In fall 2020, the Town of Auburn was awarded Action Grant funding through the Municipal Vulnerability Preparedness (MVP) Program, administered by the Massachusetts Executive Office of Energy and Environmental Affairs. The MVP program provides funding for communities across the Commonwealth to implement climate resilience projects at a regional or municipal-level.

This project focuses on two main initiatives:

- 1) Improving water quality and ecological conditions at Leesville Pond, with a focus on community education and outreach.
- 2) Ecological restoration and infrastructure improvements at the Sword Street Crossing over Kettle Brook.

For more information on the MVP Program, please visit:

<https://resilientma.org/mvp/>

## IMPACTS OF CLIMATE CHANGE



The Town of Auburn, like municipalities across the Commonwealth, is already experiencing more frequent, higher-intensity rainfall events and will be impacted by future changes in precipitation and extreme weather.

The Auburn area is anticipated to experience **up to six additional inches of precipitation per year and roughly one-third increase in the number of days per year with rainfall over 1 inch by the end of the century.**

More information on changing conditions in Massachusetts can be found at <http://www.ResilientMA.org>.

These predicted changes in precipitation highlight the need to address the capacity of existing infrastructure to meet current and projected rainfall conditions, which will be essential for **maintaining safe access at the Sword Street crossing.**

## WHY THE SWORD STREET CROSSING?



Kettle Brook, which flows into Leesville Pond, is a tributary to the Blackstone River and drains approximately 31 miles in the uppermost part of the Blackstone River watershed. Kettle Brook flows under Sword Street, which serves as the primary access route to a significant portion of the Auburn community.

**Increased flooding associated with climate change threatens emergency response services, economic activities in the adjacent industrial area, and emergency evacuation routes.**

In 2019, the Town received an MVP Action Grant focused on community resilience efforts which included the development of conceptual “green bridge” design alternatives to replace the existing culverted crossing. The existing crossing, which is comprised of four pipes (culverts), is not adequately sized for meeting anticipated increases in precipitation. The Town is now working to evaluate design alternatives to reconstruct the crossing of Kettle Brook at Sword Street to decrease the potential negative impacts of future rainfall and streamflow conditions and continue to provide safe and reliable access.

## STRATEGIES UNDER CONSIDERATION



As part of a prior MVP project, in partnership with Fuss & O’Neill, Inc., the Town developed four conceptual **“green bridge” designs** for the Sword Street crossing replacement which focused on the use of “green” infrastructure strategies, nature based solutions, multi-modal transportation, and public education. This current project will include the gathering of additional field data, further analysis of streamflow conditions present at the site, potential environmental impacts, structural requirements, and transportation needs.

**Replacing the existing crossing will improve community resiliency by decreasing vulnerability to projected increases in flooding hazards resulting from climate change.** Replacing the existing crossing will also provide environmental and water quality benefits, such as improving movement of fish and other wildlife through the crossing, restoring floodplain functions of the stream, and revitalizing ecological habitats.

## CONTACT US



If you have any questions or comments about the project, please reach out to Adam Menard, Town Planner, at 508-832-7704 ext. 1261 or [amenard@town.auburn.ma.us](mailto:amenard@town.auburn.ma.us).

Business hours are:

- Monday: 8:00 AM to 7:00 PM
- Tuesday to Thursday: 8:00 AM to 4:00 PM
- Friday: 8:00 AM to 1:00 PM

Please note Town Hall is currently open by appointment only due to COVID-19.