

Integrating Stormwater Retrofit and Transportation Improvement Scoping: Innovations from the Malletts Bay Initiative



Services / Expertise

Water Resources Management
Integrated Water Quality Planning
Stormwater Management
ArcGIS Online
Data Visualization

Markets

Municipal Clients and Regional Planning
Commissions

Project Location

Colchester, Vermont

Date Completed

2016–2017

Project Owner

Town of Colchester, Vermont

Project ID#

16-151

Project Manager

Amy Macrellis
amacrellis@stone-env.com
802.229.1884

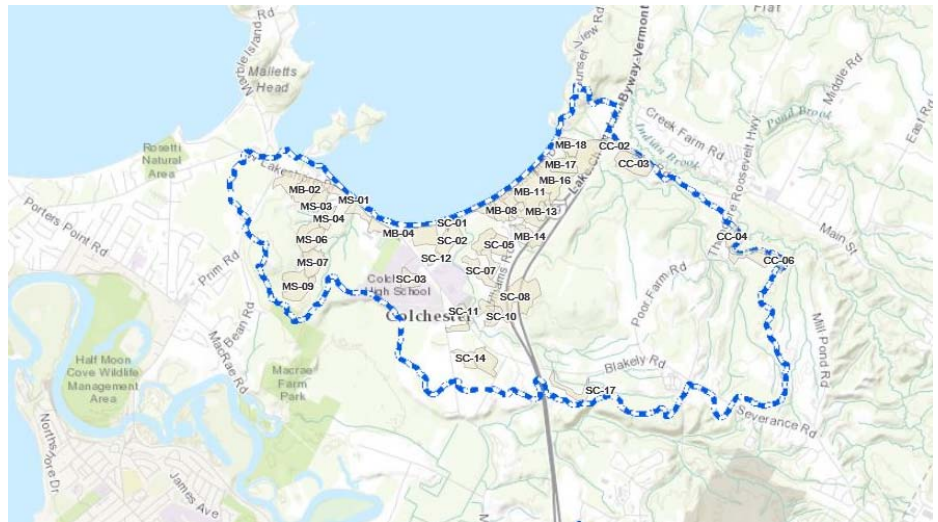
Project Team

Katie Budreski
Branden Martin, EI

ArcGIS Online Map with

Stormwater Recommendations:

<http://arcg.is/9jSK0>



As part of the project, Stone developed an interactive map using ArcGIS Online highlighting stormwater management opportunities along Malletts Bay in Colchester, Vermont

THE Malletts Bay Initiative Stormwater & Transportation Project, in Colchester, Vermont, presented a unique opportunity to collaboratively address improvements to stormwater management, address issues resulting from the present-day roadway and infrastructure, and identify solutions that enhance accessibility for all modes of transportation. The heart of the project site is directly adjacent to Malletts Bay along West Lakeshore Drive (VT Rte. 127), a heavily used commuter route that also serves substantial local traffic, particularly when parks, beaches, and campgrounds along the corridor are in their peak season. During the summer, this is a prime area for walking, bicycling, boating, and recreating at the park and beach.

In 2016, the Town of Colchester, with assistance from the Chittenden County Regional Planning Commission, hired a team of specialty consultants including Stone to develop a comprehensive stormwater management system for Town-owned roadway drainage systems along Inner Malletts Bay and its upland watersheds, along with scoping studies for pedestrian/bike improvements on West Lakeshore Drive and capacity improvements at the intersection of East/West Lakeshore Drive and Blakely Road. The stormwater evaluation built upon Colchester's existing water quality initiatives and accounted for pending State requirements for enhanced MS4 jurisdiction and phosphorus control planning, being implemented in Vermont's response to the Lake Champlain Phosphorus TMDL.

A detailed evaluation of present conditions for stormwater management was completed, including drainage area delineations, infrastructure inventory updates, and outfall and roadway condition assessments. Stone's evaluation indicated that the majority of stormwater runoff draining from Town roadways reaches the Bay without receiving adequate water quality treatment. Approximately 16% of the total watershed

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area (562 acres) drains to one of 49 Town roadway drainage systems. Of this, runoff from 139 acres (25%) is treated using infiltrating or other green stormwater infrastructure practices. Along the critical West Lakeshore Drive corridor, only 6% of runoff from Town roadway drainage systems receives any water quality treatment.

An alternatives analysis was conducted for both the stormwater and the transportation aspects of this scoping study. Where the alternatives for the intersection improvements or the bike/pedestrian enhancements involved construction of new impervious surfaces (for instance, a new shared use path along West Lakeshore Drive), the stormwater alternatives were targeted to treat both existing and proposed impervious cover. Our recommended alternatives for stormwater management demonstrated that the Town could likely meet their Phosphorus Control Plan obligations in this area through targeted retrofits located primarily within municipal rights-of-way, and the recommended alternatives were approved by the Selectboard in October 2017. The Town is already using Stone's recommendations, presented in an online map at <http://arcg.is/9jSK0>, to prepare applications and secure funding to design and implement stormwater management improvements in key portions of the watershed.