

Culvert Replacement & Embankment Stabilization at Davis Hill Road, New London, New Hampshire



Services / Expertise

Pollutant Load Reduction
Stormwater BMP Design
Culvert Replacement
Stream Restoration
Hydrologic & Hydraulic Modeling
Erosion Prevention & Sediment Control Plan
Cost-Benefit Analysis of Select Alternatives
100% Design Plans & Opinion of Probable Cost
Stakeholder Collaboration & Stewardship
Permitting Support
Project Implementation

Markets

Watershed Protection Organizations
Municipalities

Project Location

New London, New Hampshire

Date Completed

2020-present

Project Owner

Town of New London, NH

Project ID#

17-135

Project Manager

Gabe Bolin
gbolin@stone-env.com
603.809.6101

Project Team

Matt Schley, EIT
Branden Martin, PE



Significant sediment load conveyed to stream after road ditch failure, following large storm event in New London, NH. Fall, 2020.

STONE Environmental was hired by the Lake Sunapee Protective Association to provide assessment, design, permitting, and construction oversight services for a roadway embankment and streambank stabilization along a municipal road in New London, NH. Davis Hill Road has failed multiple times over the past few years during large storm events. Specifically, the ditch along the southern side of the steep, unpaved road is often overcome by large runoff volumes, and erosion along a few hundred feet of ditch conveys large quantities of sediment to a brook directly connected to Lake Sunapee. The left bank of the brook is highly impacted and the frequent sediment loads prevent stabilizing bank soils and vegetation. Additionally, the culvert at the stream is undersized and in need of repair. The road at the crossing location is narrow and needs widening to ensure safe travel.

Stone developed a design to stabilize the swale and mitigate sediment loads to the brook. The design includes a series of check dams comprised of large stone along the length of the swale, and a sediment trap and level spreader at the base of the swale to encourage settling of any conveyed sediment and provide a way for the Town to capture material before being discharged to the stream. A 6' wide pipe arch will replace the existing 4.5' wide box culvert and the stream bank will be restored and planted with native plant species to provide long-term stabilization. Stone developed a hydrology and hydraulic model to size the proposed culvert, developed final 100% design plans and a summary of construction quantities, and submitted both New Hampshire Standard Dredge and Fill Wetland Permit and a US Army Corps of Engineers New Hampshire General Permit applications. Stone will assist the Town with project construction and provide oversight in Summer 2021.