

Hands Mill Dam Removal, 30% and Final Engineering Design



Services / Expertise

Stream and Floodplain Restoration
Dam Removal Assessment
Preliminary (30%) Design
Final (100%) Design Plans & Opinion of Probable Cost
Aquatic Organism Passage Assessment & Design
Topographic Survey & Geomorphic Assessment
Sediment Analysis, Characterization and Management
Infrastructure Stability Analysis
Erosion Prevention and Sediment Control Plan
Wetland Delineation
Hydrologic & Hydraulic Modeling
Benefit Cost Analysis (BCA) of Alternatives
Photographic Simulation

Markets

State & Regional Government
Watershed Protection Organizations
Site Property Owners

Project Location

Washington, Vermont

Date Completed

2020-present

Project Owner

Winooski Natural Resources Conservation District

Project Team

Gabe Bolin, PE (Project Manager)
Peter Lazorchak, PE, LEED AP
Matt Schley, PE
Meghan Arpino
Hisa Kominami
Branden Martin, PE
Jody Stryker, PH.D.



Aerial view of Hands Mill Dam along Jail Branch in Washington, VT)

THE Hands Mill Dam is a partially breached stone masonry and concrete dam located along the Jail Branch in Washington, Vermont. The dam is currently owned by the Town of Washington and was classified as a Class 2 “significant hazard dam” in 2016 by the VT Department of Environmental Conservation (VT DEC) Dam Safety Program. The overall goals of this project are to remove the Hands Mill Dam to mitigate current flood and dam breach hazards, improve aquatic organism passage (AOP), restore stream equilibrium, and improve water quality.

In 2020, Stone was retained by the Winooski Natural Resources Conservation District (Winooski NRCD) to complete Phase 1 of the design for removal of the Hands Mill Dam. For this phase, Stone worked in coordination with Winooski NRCD, the Town of Washington, US Fish and Wildlife Service, VT Department of Fish and Wildlife, and the VT DEC to develop preliminary (30%) design plans for removal of the dam. The initial scope of work included: stakeholder meetings, field investigations, impounded sediment probing and characterization, hydrologic and hydraulic modeling, geotechnical assessment and reporting, wetland delineation, a FEMA Benefit Cost Analysis (BCA), and the development of 30% design plans.

Stone began Phase 1 with a review of existing data and a project initiation meeting with the district and stakeholders in July 2020. Stone continued to work with the district to select an alternative to pursue in the preliminary design based on a benefit cost analysis, life cycle cost analysis, and field investigations, and hydrologic and hydraulic modeling. Stone summarized this phase in a final report following the DEC Ecosystem Restoration Program reporting guidelines for a 30% design.

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The Winooski NRC D retained Stone in Spring 2021 to complete Phase 2 of the project. The scope of work for Phase 2 includes developing 100% engineering design plans, completing additional field investigations to inform final engineering design, finalize an operations and maintenance agreement, finalize a sediment management plan, prepare permit applications for submittal, summarize the final design and associated efforts in a final report, develop construction specifications and support the construction bidding process. Stone is currently developing 100% designs, along with conducting additional field investigations to support design refinements.

Information on this project is available at <http://winooskinrcd.org/handsmilledam/>