

Town of Williston Water Quality Management Plan and Implementation, Phase 1



Services / Expertise

Water Quality
MS4 Community
Stormwater Management Planning
Stormwater Retrofit Design
Construction Oversight
Hydraulic Evaluation

Markets

Local Government

Project Location

Williston, Vermont

Date Completed

2012-2015

Project Owner

Town of Williston

Note: The Phase 1 Plan was completed in 2013. Implementation projects were completed in collaboration with the Town and Friends of the Winooski River in 2014-2015.

Project ID#

12-055



STONE worked with an engineering partner and the Town of Williston to develop a strategic approach to addressing stormwater-related problems throughout the town. This project included a comprehensive review of existing water resource plans and data, including but not limited to impervious surface mapping, stream geomorphic assessment work, permits including the Town's MS4 permit and information about operations and activities within stormwater-impaired watersheds, inventories of stormwater management facilities, bridges, and culverts, and the Town Plan.

Stone then identified known problem areas that could be directly or indirectly attributed to stormwater runoff (e.g., actively eroding sites, roadway flooding and/or water ponding areas, culverts or other structures with insufficient hydraulic capacity). Our approach to identifying problem areas included drawing from the stormwater library, strategic interviews with local officials, site visits to verify problem areas, and development of uniform and consistent problem area documentation with photos. We identified over 100 individual stormwater problems town-wide.

With Town input, we developed a plan that prioritized problem areas based on anticipated water quality benefits, the Town's priorities, and both baseline environmental/development conditions and projected patterns of future development, which we analyzed using ArcGIS. Stone prepared conceptual solutions for the 30 highest priority problem areas. This systematic assessment, completed in 2013, enabled a strategic approach for addressing problem areas that directs limited resources to projects offering the best return on investment.

The town selected a high-priority neighborhood with a history of erosion and flood problems for corrective action. Stone performed hydrologic analysis, completed infiltration testing, and developed a full design with construction drawings for the project, which will be constructed in three phases. The improvements will mitigate future flood impacts and improve water quality by reducing the amount of sediment and nutrients entering the nearby Allen Brook. The first phase of construction, a dry swale retrofit along a residential street, was completed in the fall of 2014. Additional implementation projects were completed in collaboration with the Town and Friends of the Winooski River in 2015.