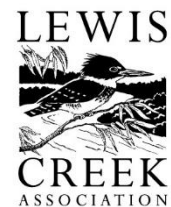


Press Release

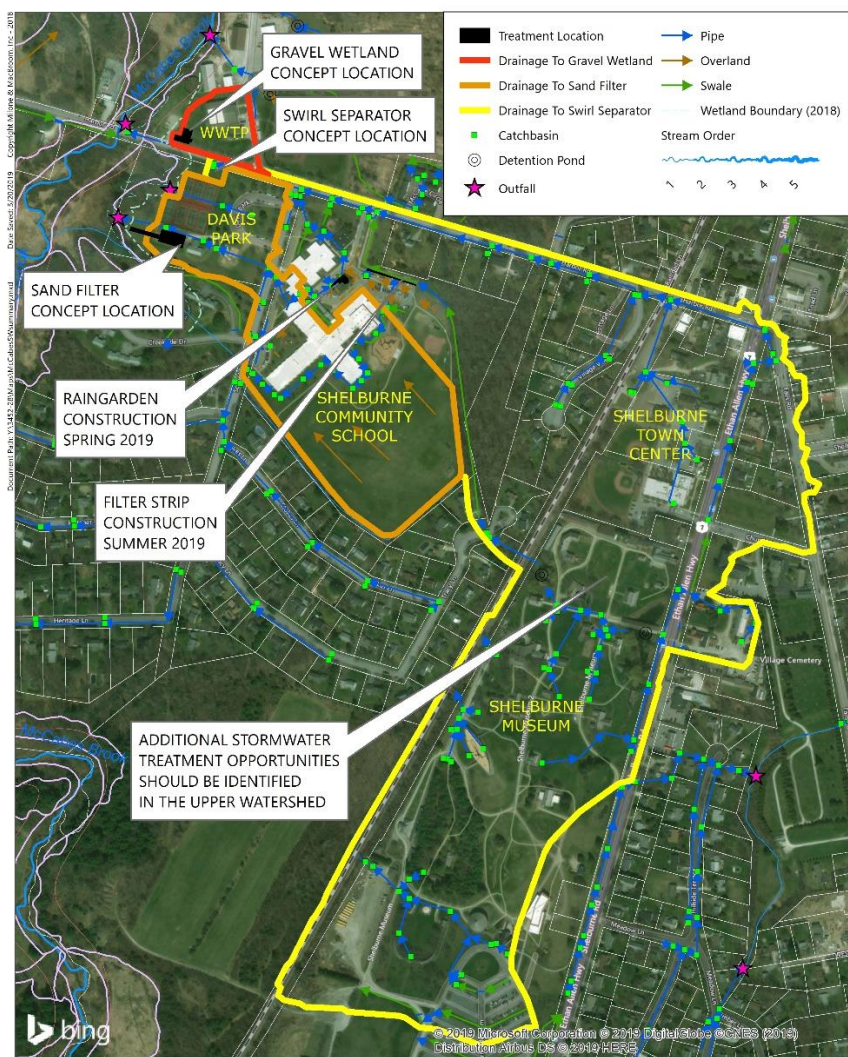
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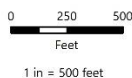


Stormwater Projects in Shelburne, and Upcoming Educational Opportunities

By Kate Kelly and Marty Illick (Lewis Creek Association), Jessica Louisos (Milone & MacBroom, Inc.)



AHEAD OF THE STORM PROJECT LOCATIONS
LOWER MCCABE'S BROOK WATERSHED
SHELBURNE, VERMONT



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Caption: Map of Ahead of the Storm project locations, Lower McCabe's Brook watershed, Shelburne

Did you know that the water that collects from the storm drains in the Shelburne village and School St. neighborhood drains directly into McCabe's Brook, untreated? Anything that goes into those storm drains (road salt, oil, etc.) ends up directly in the brook, and from there, in Lake Champlain. (It should be noted that this is a common problem across the state and country!) Lower McCabe's Brook is listed as a state impaired surface water for aquatic life support due to nutrient pollution. The brook also has documented erosion problems and elevated turbidity and nutrient concentrations during base flow conditions (South Chittenden River Watch/VT DEC, 2016). Nutrients like these can cause serious algal blooms (including harmful blue-green algae) in the lake, and can lead to fish die-offs. Chloride (which is in road salt, sodium chloride) is also bad for the environment, and can kill off plants. So, what can we do about this problem?

The Town of Shelburne and the Lewis Creek Association (LCA) have partnered to find solutions to improve water quality of stormwater leaving the Village. LCA has been spearheading the "Ahead of the Storm" (AOTS) project, which grew out of a group of citizens from Charlotte, Hinesburg, and Shelburne who were concerned about the serious decline of Lake Champlain's health and water quality. Stormwater runoff from driveways, fields, parking areas, and lawns is a major factor in the deterioration of our water quality. AOTS helps communities change the way stormwater is managed on properties to reduce water pollution and be more prepared for extreme weather events and impacts of climate change. Fourteen municipal, commercial, and private properties have been selected to become demonstration sites to showcase more optimal conservation practices in a variety of landscape settings. Shelburne has partnered on AOTS projects on Brook Lane, at the Shelburne Community School, at Davis Park, and at the municipal property on Turtle Lane.

Lewis Creek Association was awarded a grant from Vermont Department of Environmental Conservation to examine potential stormwater treatment options in the Lower McCabe's Brook watershed, in particular on two town-owned parcels adjacent to McCabe's Brook. The two priority areas were identified in a prior stormwater infrastructure study led by LCA. The two sites are across Harbor Road from each other, at the Wastewater Treatment Plant on Turtle Lane, and at Davis Park (in the space where the old ice rink used to be) on School Street. Because of high groundwater and poor soil infiltration, infiltration-based alternatives, which provide the highest levels of treatment, were not possible.

A gravel wetland was designed to capture and treat the runoff from existing impervious surfaces near the wastewater treatment facility, and would treat water from 2.1 acres, reducing the phosphorus load by an estimated 0.51 kg/year or 55% of the total load. The cost was calculated at \$47,000. Across the street at Davis Park, a sand filter with underground detention was designed to capture and reduce flow rates for stormwater drainage coming from the majority of Shelburne Community School and Davis Park. The sand filter would treat runoff from 21.4 acres, reducing the phosphorus load by an estimated 4.25 kg/year, or 44% of the total load. The approximate construction cost is \$450,000. High flows, large volumes, and site constraints limit options for water quality treatment at locations lower in the watershed. The main stormwater line carrying water down Harbor Road from the Town Center has such a high volume of water that a swirl separator was identified as the highest level of treatment that would

work as an end of pipe solution. Other treatment locations throughout Shelburne should be investigated. As upstream projects are implemented, the hydrology calculations should be updated to reflect the new conditions near McCabe's, which may allow for smaller system sizes or a higher level of treatment.

As part of the match for this grant, a bioretention area ("rain garden") was constructed at Shelburne Community School (in the circle where the buses drop off) to treat runoff from existing impervious surface, and is an Ahead of the Storm site. This project was funded by two Lake Champlain Basin Program (LCBP) grants, and was completed in late June. Two other AOTS stormwater improvement projects at schools will be built next year under a separate LCBP grant. These future projects will be built at SCS (off the east parking lot) and at CVU (off the north parking lot).

Additionally, LCA is excited to announce that we received another Lake Champlain Basin Program grant this year. We will hold stormwater training sessions this fall for community members and teachers, which will explore stormwater issues, as well as how stormwater assessments on properties are done. We anticipate this to be a series of meetings, which will culminate with a packet of information that can be used and distributed by teachers/community members for educational purposes. This grant will also fund school/classroom visits with an engineer, which will happen this fall and will educate students on previous and possible future water quality and resiliency projects on their campuses.

For more information on the Ahead of the Storm Program, visit www.lewiscreek.org/ahead-of-the-storm. If you are interested in participating in learning and teaching about stormwater, please reach out to Kate Kelly, Program Coordinator for Lewis Creek Association, at lewiscreekorg@gmail.com.