

**New York City Department of Environmental Protection
Bureau of Water Supply**

**Stream Management Program
Request for Approval for Water Quality-Driven Stream Project:
East Kill at Colgate Lake Road (Schoharie Basin)**

March 2019

*Prepared in accordance with Section 4.6 of the NYSDOH
2017 Filtration Avoidance Determination*



Introduction

Stream restoration projects are a core component of the New York City Department of Environmental Protection (DEP) Stream Management Program (SMP); they have a primary purpose of improving water quality, especially by reducing erosion into fine sediments that contribute to turbidity.

The 2017 Filtration Avoidance Determination (FAD) requires the SMP to design and complete construction of at least 24 Stream Projects that have a principal benefit of water quality protection or improvement by December 31, 2027; at least eight of these 24 projects shall be in the Ashokan watershed. DEP is required to propose new Water Quality Stream Projects for approval by NYSDOH by November 30 of each year.

To date, six projects have been approved towards fulfillment of the 24 required Water Quality Stream Projects and two have been constructed (Table 1).

Table 1. Status of WQ Projects towards fulfillment of the 2017 FAD requirement.

| Project Name | Status | Length (feet) | Basin |
|---|---------------|----------------------|--------------|
| Batavia Kill at Kastanis | Completed | 3,800 | Schoharie |
| Bush Kill at Watson Hollow | Completed | 250 | Ashokan |
| Batavia Kill at Red Falls Phase 1 | Approved | 2,700 | Schoharie |
| Batavia Kill at Red Falls Phase 2 | Approved | 4,400 | Schoharie |
| West Branch Neversink River at Clothes Pool | Approved | 800 | Neversink |
| Hillslope Stabilization at Bull Run | Approved | 300 | Pepacton |

Through this report, DEP formally requests NYSDOH approval for one additional project to be counted towards the 2017 FAD requirement: the East Kill at Colgate Lake Road in the Schoharie basin, which is under design and scheduled for construction during 2019.

Project Description: East Kill at Colgate Lake Road

The East Kill watershed is a sub-basin of the Schoharie Creek that originates near Lake Capra (upstream of Colgate Lake) and drains approximately 36 square miles of the Schoharie basin including parts of the high peaks of the Blackhead Mountains including Thomas Cole, Black Dome and Blackhead Mountain. The project location is depicted in Figure 1.

The proposed project reach was identified in the East Kill Stream Management Plan (2006) as the second greatest contributing source to turbidity in the East Kill, moving from headwaters to the Schoharie confluence. The most significant site was restored in 2012 as part of the East Kill at Apple Hill project. This proposed reach has been historically modified by construction of a bridge and downstream berm leaving the reach prone to continued streambank failure and mass wasting. The reach also contains large quantities of turbidity-producing lacustrine sediments.

The purpose of this project is to halt hydraulic erosion at the toe of a 45' high and 350' long hillslope to reduce mass wasting and restore adjacent floodplain connectivity. Figures 2 and 3 depict the reach condition. The best management practices proposed for this site include minor modifications of channel alignment, development of a stable bankfull bench, and berm removal. The project design includes the installation of a combination of live stone revetment and root-wads for the high bank toe protection, bioengineering and installation of native potted plants and seed mixes to provide streambank stability and a healthy riparian buffer. The project is currently being designed by Greene County Soil and Water Conservation District and is on schedule for 2019 construction.



Figure 1. Location of the proposed East Kill at Colgate Lake Road Stream Project.



Figure 2. Primary hillslope failure at the East Kill at Colgate Lake Road.



Figure 3. Example of freeze/thaw induced turbid discharge from the hillslope.