Executive Summary

On May 14, 2019, the Village of Rhinebeck collected a water sample from one of its quarterly sampling locations in the Village, which contained a Haloacetic Acids (HAA5) concentration at elevated levels, resulting in a violation of the water quality standard. The public was notified of the violation on July 12, 2019, and the Village undertook immediate actions to both investigate the cause of the exceedance and also modify the water system operation to improve water quality. As of Q3, the Village is in compliance with HAA5 and total Trihalomethanes (TTHM) regulations at both sampling locations.

The Village of Rhinebeck uses the Hudson River for its water supply. The Village’s water system consists of an intake pipe in the Hudson River, a water treatment plant, a storage tank, and a network of distribution pipes located throughout the Village and Town of Rhinebeck. The Hudson River has contributed to elevated TTHM historically but has not been known to cause elevated HAA5 concentrations. The Village of Rhinebeck WTP uses conventional treatment, including rapid mix, coagulation, flocculation, sedimentation, filtration, and chlorine disinfection, to treat the influent water from the Hudson River. Incoming water quality and water treatment methods can result in elevated HAA5.

Disinfection byproducts (DBPs) are chemical compounds that form when disinfectants, typically chlorine, react with organic matter that is naturally present in the water. DBPs commonly include HAA5 and TTHM. DBPs are regulated by the US Environmental Protection Agency (EPA) under the National Primary Drinking Water Regulations because they have been linked to an increased risk of certain cancers and other health issues. Federal regulations aim to minimize DBPs due to public health risks; however, DBPs cannot be completely eliminated because disinfection is an integral component of water treatment. The public health risk of consuming water which is not treated and not disinfected far outweighs the public health risk of consuming water with DBPs.

Federal and state guidelines for addressing HAA5 violations include the preparation of an Operational Evaluation Level (OEL) Report to review the water treatment system operations to identify opportunities to improve drinking water quality and avoid or minimize additional exceedances. This report summarizes the Operational Evaluation performed, including the findings of the water system sampling and a review of the water quality data, and recommends water system operation improvements to ensure delivery of high-quality water that meets regulatory standards.