



Illicit Discharge Detection Investigation Kimball Brook Watershed

Town of Ipswich, Massachusetts

In 2007, the Massachusetts Department of Environmental Protection's (MA DEP) Northeast Regional Office (NERO) implemented a bacteria source tracking program throughout northeastern Massachusetts (MA) to identify bacteria sources in impaired water bodies. DEP staff performed bacteria sampling at various stream segments and at storm drain outfalls within eight different watersheds throughout the NERO district, including along Kimball Brook, a tributary to the Ipswich River in Ipswich, MA. As a result of observations of elevated bacteria concentrations in 2007 and 2008, NERO issued a letter to the Town of Ipswich requiring the Town to investigate the source of bacteria and address the water quality violations as soon as possible.

The Horsley Witten Group, Inc. (HW) was contracted by the Ipswich Department of Public Works (DPW) to assist the Town in responding to MA DEP's violation notice. HW developed and implemented the following response:

- Map the drainage system within the Kimball Brook watershed to identify outfalls discharging to the brook, and investigate and document outfalls;
- Inspect all necessary manholes and catchbasins to determine flow origin and direction;
- Perform two dry weather visual inspections of the drainage outfalls discharging to Kimball Brook;
- Sample dry weather flow when observed and analyze for bacteria (fecal coliform and/or Enterococcus spp.), surfactants, and ammonia;
- Identify potential pollutant sources through field investigation, land use and infrastructure mapping, and septic system records; and
- Provide recommendations to the Town of Ipswich for eliminating identified sources of pollution from the Kimball Brook drainage system.

HW prepared a final report on behalf of the Town of Ipswich and submitted it to MA DEP in compliance with the violation letter.

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