Alewife Stormwater Wetland

The federally mandated Boston Harbor Cleanup required the City of Cambridge to complete sewer separation and stormwater management measures to protect the Alewife Brook and Little River from combined sewer overflows (CSOs), flooding, and polluting runoff. Kleinfelder and two partner firms employed innovative approaches to science, engineering, and construction to concurrently resolve infrastructure problems, enhance the environment, and provide new open-space resources to the community.

**PROJECT RESULTS**
The project employed multiple innovations, incorporating conventional and bioengineered approaches. The stormwater wetland enables the sewer separation and infrastructure renewal for 420 acres of catchment area and reduces CSOs to the river by 43.6 million gallons annually. It also took a parcel considered wasteland, improved its ecological health, and transformed it into a beautiful urban park.

**SITE AND CONSTRUCTION COMPLEXITIES**
The only feasible location for the required stormwater storage was state-owned land requiring legislative permission and part of the highly prized wild area, Alewife Brook Reservation. Complex construction phasing and sequencing—which included protecting wildlife and flora, contaminated soils and groundwater, and intense community involvement were also challenges.

**BOTH A WETLAND AND PARK**
Going beyond the initial requirements, the Cambridge Department of Public Works and the engineering team collaborated with the state Department of Conservation and Recreation using traditional and innovative methods to design the sewer separation and stormwater management, with features that provide public benefit and ecological value. New England’s largest constructed wetland employed stormwater treatment in an outfall scenario, used bending weir technology to maximize conveyance capacity, and managed wetland impacts, flood plain impacts, and pre- and post-peak discharge requirements without violating wetland and flood plain regulations. The design simultaneously restores an ecological wasteland creating parkland and public amenities.

**Location:** Cambridge, Massachusetts

**Owner:** City of Cambridge