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Town of Braintree - Monatiquot River Watershed Study

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Graduate Studio - first year student in the MLA program • Spring 2011 guided by Chingwen Cheng, Ph.D. Candidate, Department of Landscape Architecture and Regional Planning.

Abstract

Monatiquot River has played an important role in the Town of Braintree's great industrial history. Over time, people's relationship with the river has evolved from daily necessity and industrial utilitarian usage to scenery and recreational amenity. Currently, there is limited public physical access to the water and a lack of connection to regional greenway system. In addition, the extreme flood in March 2010 signified the prolonged urbanization impacts on floodplains and massive impervious surfaces in

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the watershed. Under the climate change effects, Braintree is likely to face more frequent and severe storms that affect safety and welfare of the increasing population of Braintree residents. Finally, water quality in Braintree has been a concern as a downstream community in the increasing urbanized watershed. To address those challenges in Braintree, the main goals of this project are to provide stormwater management strategies, improve water quality management and to evaluate accessibility and recreation opportunity of the Monatiquot River within the Town of Braintree.

This project underwent a series of data dredging and assessment through meetings with the members of the Planning & Community Development Department and Public Health Department, site observations, GIS data analysis and assessment at Weir subwatershed scale and town scale using a SWOT (Strength, Weakness, Opportunities, and Treats) analysis methodology, and a public community workshop. The studio then synthesized those findings in company with relevant case studies and developed planning and implementation strategies for each project goal

Key recommendations indicated in this report include implementation of stormwater best management practices (BMPs) at all scales (subwatershed, town, and site scales) on all land uses to reduce impervious areas, increase infiltration, and improve water quality. In addition, a continuous riparian 200 feet buffers to restore ecological and hydrological functions for flood control and water quality improvement. Furthermore, develop long-term plans for acquisition of floodplain properties and restore hydrological functions of floodplains. Moreover, provide access to the river through redevelopment and enhancement of existing public access points with trail connections to town parks and initiate a Monatiquot River Greenway System connecting both local and regional recreation systems. Finally, develop Monatiquot River Outreach and Education Programs that help to bring the awareness of watershed issues, facilitate BMPs implementation, and build a long term stewardship with the river.

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