



Department of Planning and Community Development

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Mayor Joseph C. Sullivan

TOWN OF BRAintree EVALUATION OF HAZARD MITIGATION PLAN – FLOOD MITIGATION ACTIVITIES Annual Update 2017

In 2011-2012 the Town of Braintree worked with the Metropolitan Area Planning Commission to update its Flood Hazard Mitigation Plan. The plan, approved by FEMA in February 2013, includes a comprehensive list of prioritized mitigation actions to address the flood hazard risk. These actions are discussed below along with progress toward their implementation.

Proposed Hazard Mitigation Measures from Town of Braintree Hazard Mitigation Plan

A) Dickerman Lane and Staten Road Project: This project includes the installation of two new culverts and an upstream runoff impoundment area to address frequent storm driven flooding in this dense residential neighborhood. The existing culverts are undersized for addressing current storm flow and are constricted with interior physical obstructions. The improvements will also include water quality treatment for road runoff. This project is phase three of the Bestick Road Area Flood Control Study identified in the Flood Hazard Mitigation Plan.

2017 Update- This project was completed in spring of 2015.

B) Monatiquot River Watershed Management Plan: The majority of flooding in Braintree occurs along the Monatiquot River and its tributaries. The proposed study would look at the watershed area in order to identify storm water management projects and policies that could serve to reduce flooding. This study could also look at addressing water quality and habitat issues in the river as well. Fairfax County, VA has conducted detailed watershed studies addressing multiple issues that could serve as one model for the Monatiquot study, available at <http://www.fairfaxcounty.gov/dpwes/watersheds/>. The City of Quincy recently conducted a flood control study of the Furnace Brook that involved studying the entire stream system and proposing infrastructure improvements to address flooding.

2017 Update: The Town continues to evaluate opportunities to implement recommendations from the watershed plan developed by the University of Massachusetts students in 2011.

C) Great Pond Dam: The Town has engaged an engineering consultant to assist with the development of a strategy to bring this dam back into compliance with State safety regulations. Once that strategy is complete the Town will implement the necessary repairs and modifications.

2017 Update: Construction is scheduled to commence in summer of 2017.

D) West Street / Pond Street Roadway Elevation: This roadway skirts the Great Pond Reservoir, which supplies drinking water to Braintree, Randolph, and Holbrook. When the area is inundated with heavy rains the roadway frequently floods resulting in loss of access and road damage. This regional project would build the roadway higher than the present roadbed and enlarge the culvert under the present road.

E) Water Elevation Control: The Town needs the ability to make adjustments to the outflow from dams in advance of heavy rains in order to reduce or prevent upstream flooding. While the Town has successfully implemented a program to accomplish this objective for publicly owned dams, the privately owned Armstrong Dam must still be addressed. The ability for Town staff to temporarily remove boards would be one solution at this dam (This measure combines the Armstrong dam measure from 2005 and the lowering water levels behind dams measure from 2008).

2017 Update: The owner of the Armstrong Dam has permanently removed boards since there is no function to the dam any longer. The Town continues to work with the dam owner as well as the Division of Marine Fisheries and the Fore River Watershed Association to fund full removal of the dam.

F) Regional Vacuum Truck: A vacuum truck allows for clearing debris and blockages from storm drain lines. On an individual basis, the Town would only occasionally make use of this truck, but, if it were purchased jointly with neighboring towns, the cost of the truck would be reduced for each participating town to the point where the cost would be more in line with the potential level of use.

2017 Update: The Braintree Highway Department acquired their own vacuum truck.

G) Repetitive Loss Area Property Owner Outreach: Targeting flood information outreach to repetitive loss area property owners would get valuable information to property owners in the Town who have historically experienced the greatest impact from flood events while also giving the Town an opportunity to learn from people in these areas about the causes and extent of flooding.

2017 Update: The Town sent a mailing to residents in repetitive loss areas in March of 2015 with targeted suggestions. In 2016 the townwide mailing in the electric bills was used to reach repetitive loss areas. A separate mailing to repetitive loss areas is planned in 2017.

H) Bestick Road Area Flood Control: A hydrologic study of the Bestick Road Area was completed and the result of this study was a three phase mitigation project. The first phase involved the construction of an upstream drainage basin, completed in 2008. The Town will continue to pursue the second and third phases of this project; the second phase, wetlands restoration and water detention area, is in permitting and the third phase is the Dickerman Lane and Staten Road Project identified above.

2017 Update: The second phase, wetland restoration and detention has been tabled at this time. The Town has observed that phase one (the upstream detention basin) has prevented additional flooding and the Town completed the culvert replacement project (third phase).

I) Braintree Highway Department Barn: The Highway Department Barn is frequently flooded during large storm events. The best solution for addressing this problem would be to relocate the facility. An alternative site has been identified but there is not currently funding available to complete the restoration. Until that solution is feasible, Town staff should identify other measures that could be taken to reduce the vulnerability of the building and protect the equipment and materials stored there.

2017 Update: No action has been taken on this but discussion is ongoing regarding funding for construction of a new building in a higher location. The outside sand pile will be reduced in size and stored higher on the site.

J) Enhance Drainage at Union Street: Union Street is a critical pathway for emergency evacuation and response during a natural hazard event but is prone to flooding. A combination of physical drainage enhancements and enhanced maintenance are necessary to reduce flooding on this roadway. The engineering division has begun discussion with MA DOT on this project.

2017 Update: MA DOT dredged a drainage channel near the rotary in late 2015.

K) Promote Low Impact Development Techniques: Low impact development (LID) practices, including infiltration, dry wells, green roofs, cisterns, and other measures, minimize runoff and mimic the natural hydrology of a site. As much of the flooding in Braintree is the result of the rapid drainage of stormwater from impervious surfaces, to the extent that LID techniques can lead to less impervious area and reduced runoff these practices can also help to address flooding issues.

2017 Update: The Planning Board and Conservation Commission continue to work with project proponents to implement LID techniques on projects reviewed by these boards.

L) CRS Program Maintenance: Continue Active Participation in the Community Rating System program including regular public education events related to flood awareness and prevention as well as the availability of flood insurance through NFIP. Flood outreach programs have already been enhanced and the Town will formalize the CRS coordinator position to oversee on-going program maintenance.

2017 Update: The Town continues to participate in the Community Rating System.

M) Reduce Impervious Area: As a largely built out area, impervious surfaces contribute to flooding events throughout the river and creek system. Steps taken to reduce the amount of impervious area can help to mitigate the amount of flooding. During the site plan review process, the Town will look for opportunities to reduce impervious area in redevelopment projects.

2017 Update: The Planning Board and Conservation Commission continue to work with project proponents to reduce impervious surfaces during redevelopment projects.

N) Map Storm Drain System: An accurate map of the Town's storm drain system can aid the maintenance process and help the Town determine where to apply mitigation measures.

2017 Update: The Town has successfully mapped 90% of the system.

O) Restore Riverfronts: As redevelopment occurs, the Town will seek opportunities to restore riverfront and floodplain areas to more natural conditions so as to allow them to better handle flooding and provide a water quality benefit. As funding is available, and pending the recommendations of a larger study of the Monatiquot River, restoration efforts will also be undertaken on publicly owned waterfront areas where appropriate.

2017 Update: The Town continues to work toward riverfront restoration, both with publicly-owned land and privately owned land.

P) Pump Station Back-up Generators: All but one of the sewage pump stations now has a back-up generator.

2017 Update: The Surrey Lane pump station was eliminated in 2017. The generator salvaged from this station may be used at the currently backup-generator-deficient Jefferson Street pump station.

Q) Public Education, Flooding: Continue active public education programs related to flood and hurricane awareness and mitigation measures. In particular, information on strategies property owners can adopt to mitigate the impact of flooding on their homes or businesses should be provided to those in repetitive loss areas, floodplains, and areas with high water tables.

2017 Update: The Town continues to send a mailing to residents with targeted suggestions and resources.

Measures to Ensure Compliance with NFIP

R) Floodplain Management: Continue to enforce the Floodplain Zoning District (Article VI, Section 135-608) and associated building regulations for floodplain areas. Update this district to remain consistent with FEMA guidelines and floodplain mapping.

2017 Update: No changes have occurred to flood insurance rate maps since last update. Continue to implement floodplain zoning.

S) Floodplain Mapping: Maintain up to date maps of local FEMA identified floodplains.

2017 Update: The Town continues to post the Flood Insurance Rate Maps on its website and has hard copies available in the Engineering Department. The maps are also a layer on the Town's GIS.

T) Acquisition of Vacant Flood Prone Lands: Acquire priority open space parcels in floodplain areas as they become available in order to maintain flood storage and water infiltration capacity. These parcels may also be used for general conservation and recreation purposes.

2017 Update: The Town continues to explore opportunities for acquisition of flood-prone land.