

Township of Woodbridge

Climate Adaptation: Flooding Risk

Progress Report

August, 2019

Jurisdiction: Township of Woodbridge

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Purpose: The initiatives herein which were unveiled during the Township's Getting to Resilience Report, Coastal Vulnerability Assessment, and other climate adaptation planning mechanisms / floodplain management programs have begun to yield significant benefits. They entail a quest for excellence that is providing momentum to help increase flood risk outreach education, floodplain restoration, and sound record-keeping. This update and progress report seeks to ensure project outcome success, and intensify the Township's commitment to serve and support the community both within and near flood risk areas.

Goal #1) Help minimize risks to human life within hazardous floodplains, and reduce the amount of flood damage sustained during future flood events.

- Enforce resiliency measures such as, Open Space Conservation/Resilience Zone and Flood Damage Prevention Ordinance (attached). Continue to implement map information services and outreach centered on reducing flood losses. Continue to evaluate additional measures to increase flood warnings and operational preparedness in order to more readily be able to rebound after powerful storm events. Continue to implement green infrastructure practices in floodplains in order to reduce impervious cover.

Goal 1				
Year Identified	Description	Status	Progress as of Aug, 2019	Projected completion date
2015	Port Reading Rain Gardens / Floodplain Restoration One impervious surface reduction project	Planting in Port Reading Completed as of Spring 2019	On-going	Estimated completion for the Port Reading area is expected to be in Spring of 2021; see below for additional details and updates.

2018	StormReady is a NWS community preparedness program that encourages government entities and commercial gathering sites to prepare for severe storms.	Researched in 2019; deemed to be N/A - N/A at Local Level according to Mount Holly NWS	N/A; StormReady is moving to a County approach	Please see updated goals for additional potential systems.
2015	Twp working with Rutgers Cooperative Extension Program (RCE) to continue open space / restoration plan; Explain flood risks and increase open space preservation/ restoration in OSC/R.	200+ trees/shrubs in 6 former residential lots within the Watson-Crampton neighborhood An outreach speaking event also took place before said project was implemented in order to educate residents	On-going	This project is on-going, in 2020 the Twp plans to begin trail installation with RCE and continue maintenance, restoration, and invasive species management. See update to goal five for more details on restoration.

Goal 1 Update

Year Updated	Description	Projected completion date
2019	Three impervious reduction projects within a floodplain. Install stream gauge monitoring at one high risk area which can be tracked internally for Code Red purposes.	Estimated completion 2022

Goal #2) Enhance Township resilience and increase hazard mitigation preparedness by improving readiness for climate related emergency situations.

- NJ Flood Mapper was used by the aforementioned group to assess a variety of coastal vulnerability scenarios. As a result of these mapping studies potentially inundated locations will be more thoroughly examined by the team. Further scrutiny of these areas will provide a stronger analysis of Township vulnerability, and address the potential for implementing coastal hazard mitigation techniques. The Township's coastal evacuation routes were analyzed under sea-level-rise scenarios of 1ft., 2ft., and 3ft.

Goal 2				
Year Identified	Description	Status	Progress as of Aug, 2019	Projected completion date
2018	Increase outreach to Community Right To Know (CRTK) floodplain businesses.	On-going	Letters to be sent to CRTK business in Fall of 2019	Jan 2020; please see update below for additional details.
2018	Create outreach centered on increased patterns in storms, flood insurance in X zones, and what to do after a flood.	On-going	FIRM determinations for those in X Unshaded Zones were provided information on PRP policies	Please see update below for additional details.

Goal 2 Update

Year Updated	Description	Projected completion date
2019	Increase outreach to CRTK areas and X-Unshaded property owners through the use of community based meetings and mailings. Conduct two outreach	Estimated completion 2020

speaking events to discuss the importance of hazardous materials within floodplains and / or ecological integrity of floodplains and / or risk within X-Unshaded zones,

Goal #3) Strengthen the Township's economic vulnerability in relation to special flood hazard area's (SFHA) and sea level rise (based on global estimates by the year 2050).

- The team analyzed the potential exposure to sea-level-rise hazards associated with the social vulnerability of special populations based on attributes like age, poverty, and the built environment. The team assessed the number of businesses exposed to hazards associated with current mean higher high water (MHHW) and sea-level-rise scenarios of 1ft., 2ft., and 3ft. The team examined the number of employees exposed to hazards associated with current MHHW and sea-level-rise scenarios of 1ft., 2ft., and 3ft. The team examined the range of wages with in the Township in relation to the exposure of those locations to hazards associated with current MHHW and sea-level-rise scenarios of 1ft., 2ft., and 3ft. The team analyzed the FEMA designated Preliminary Flood Insurance Rate Map (PFIRM) in order to better assess the risks associated within the local flood zone. The team looked at areas subject to inundation by storm surge under conditions of a Category 1, Category 2, Category 3, and Category 4 storm. In addition, the team examined the extent of the Super Storm Sandy surge.

Goal 3				
Year Identified	Description	Status	Progress as of Aug, 2019	Projected completion date
2018	Create outreach to help property owners consider FEMA programs for mitigation.	On-going	Although not through FEMA mitigation programs, vulnerable flood risk areas, such as, Ideal Mobile Homes, plans to elevate and replace	Please see update below for additional details.

			significantly at risk structures comprising of over 40 single home dwellings	
2018	Work with partner organizations (such as RU) to apply for grant funding in order to best safeguard vulnerable populations and enhance restoration of floodplain.	On-going	WB Twp is participating in the Resilient NJ program for integrated County planning assistance; Twp is a participating member of the NJ Coastal Coalition.	Please see update below for additional details.

Goal 3 Update

Year Updated	Description	Projected completion date
2019	Examine possible funding sources and mitigation efforts in fluvial floodplains, such as, but not limited to, South Branch of the Rahway River. Development of Twp Program for Public Information to better inform property owners of flood risk areas.	Estimated completion 2021

Goal #4) Strengthen the Township's vulnerability to critical infrastructure and community assets in relation to special flood hazard area's (SFHA) and sea level rise (based on global estimates by the year 2050).

- Utilizing the Coastal Vulnerability Assessment Woodbridge initially identified approximately 400 assets to be included in the vulnerability and consequences assessment, but only those assets shown to be impacted by sea level rise and/or a Category 1 Hurricane in 2050 (52 assets in total) were included in the assessment. The assets were identified under four broad categories of potential community assets: Critical Facilities & Infrastructure Systems, Community Resources & Amenities, Natural Resources & Ecosystems, and Districts, Neighborhoods, & Population Clusters. The information noted in said assessment, along with the Getting to Resilience Report, has helped Woodbridge identify short-term and long-term recommendations and helped determine essential planning activities. This report was distributed to our administration, directors, OEM, and environmental commission.

Goal 4				
Year Identified	Description	Status	Progress as of Aug, 2019	Projected completion date
2018	Assess the ability to reduce impervious cover located at any area of concern.	On-going	The Twp Green Infrastructure team is evaluating how to implement said efforts. Design plans have been completed to help capture and treat storm water (using Green Infrastructure) within a low-moderate flood risk area)	Please see update below for additional details.

Goal 4 Update

Year Updated	Description	Projected completion date
2019	Examine possible funding sources and mitigation	Estimated completion 2021

efforts in order to
incorporate Green
Infrastructure into high risk
floodplains/ known problem
drainage areas where
existing impervious surface
areas persist.

Goal #5) Protect and enhance natural floodplain functions in order to safeguard and promote biodiversity and ecological integrity.

Continue to implement Woodbridge Twp. Open Space & Floodplain Restoration Plan and Impervious Cover Reduction Action Plan. Nuisance flooding during full-moon high tides, heavy rain events, and strong coastal surges during storm seasons have been increasing in velocity, frequency, and intensity. In addition, climactic shifts due to an increase in greenhouse gas emissions continue to show flooding issues climbing higher than predictions. Critical near-shore habitats, wetlands, and upland forests can function as buffers to absorb excess water and wind energy introduced into a watershed.

Goal 4				
Year Identified	Description	Status	Progress as of Aug, 2019	Projected completion date
2015	<p>Forested Wetland Restoration in Woodbridge Floodplain</p> <p>Invasive Species Management and Native seeding in Woodbridge Floodplain</p> <p>Current restoration plans for Colonia, Woodbridge, and Port Reading.</p>	On-going	<p>Drill-seeding to promote wildflower / native vegetation meadow within Woodbridge floodplain took place on 05/28 /19 & 05/29/19. Additional plugs planted (up to 4,000+)</p> <p>1.5-2” caliper trees installed within Colonia restoration sites</p>	Please see update below for additional details.

			Forested wetland plans in review by DEP	
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Goal 5 Update

Year Updated	Description	Projected completion date
2019	Forested Wetland Restoration in Woodbridge Floodplain implementation	Estimated completion 2022
	Trail implementation and illustrative signage explaining natural functions of floodplains.	

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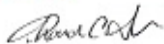
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Sincerely,



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