

TOWNSHIP OF BRICK FLOODPLAIN MANAGEMENT PLAN ANNUAL PROGRESS REPORT

September 12, 2017

Prepared for:
Township of Brick, New Jersey



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TOWNSHIP OF BRICK FLOODPLAIN MANAGEMENT PLAN

ANNUAL PROGRESS REPORT

BACKGROUND

The Township of Brick developed a floodplain management plan to enhance floodplain management and mitigate flood impacts in the community by identifying resources, information, and strategies for flood risk reduction. To prepare the plan, the Township of Brick organized resources, assessed risks from flooding, developed planning goals and objectives, reviewed mitigation alternatives, and developed an action plan to address probable impacts from floods. The plan can be viewed on-line at:

<http://www.bricktownship.net/flood-plain-management/flood-plain-management-plan>

The Floodplain Management Plan was prepared in accordance with the National Flood Insurance Program (NFIP) Community Rating System (CRS) floodplain management planning requirements. As part of the plan development process and as required by CRS, the Township of Brick developed a plan maintenance procedure that describes how the plan will be monitored, evaluated, and updated.

The Township has recently been accepted into the CRS program with a Class 6 rating. CRS is a voluntary program that encourages floodplain management activities that exceed the minimum requirements of the NFIP in exchange for flood insurance premium discounts for policy holders within the participating communities. The Township's Class 6 rating means that flood insurance policy holders within special flood hazard areas receive a 20 percent discount on premiums.

Purpose

The purpose of this report is to provide an update on the implementation of the mitigation initiatives identified in the Floodplain Management Plan. The objective is to ensure that there is a continuing planning process that will keep the Floodplain Management Plan dynamic and responsive to the needs and capabilities of the Township of Brick and stakeholders and to meet a portion of the annual certification requirements for CRS. This report includes the following:

- Summary of any flood hazard events that occurred during the reporting period and the impact these events had on the planning area
- Changes in risk exposure in the planning area
- Review of mitigation success stories
- Review of continuing public involvement
- Brief discussion about why targeted strategies were not completed
- Re-evaluation of the action plan to determine if the timeline for identified projects needs to be amended (such as changing a long-term project to a short-term one because of new funding)
- Recommendations for new projects
- Changes in or potential for new funding options (grant opportunities)
- Impact of any other planning programs or initiatives that involve flood-related hazard mitigation.



Reporting Period

The reporting period for this progress report is August 2016 through August 2017.

Planning Committee

It was determined that a Planning Committee, similar to the stakeholder committee that oversaw the plan development, should remain intact through the plan implementation period. The minimum task of the Planning Committee is the evaluation of the progress of the action plan. The membership of the Planning Committee is expected to change overtime and such changes in membership are to be documented in the progress report. For this reporting period, the Planning Committee membership is as indicated in Table 1.

Table 1. Flood Management Planning Committee

	Member	Title	Representing	Committee Title	Gov't	Non-Gov't Stakeholder	Non-voting
	John G. Ducey	Mayor	Township of Brick	Ex-Officio Member	-	-	x
	Jim Fozman	Councilman	Township of Brick	Council Representative	-	-	x
	Joanne Bergin	Business Administrator	Township of Brick	Township Representative	-	-	x
1	Lisa Auermueller (Alternate - Chris Huch)	JCNRR	Stakeholder/Academia	Non-government stakeholder		x	
2	Glenn Campbell	Brick - DPW Director	Public Works Director/ Resident	Resident	x		
3	Elissa Commins (Alternate- Kurt Otto)	Brick Township Engineer	Floodplain Administrator		x		
4	Michael Fowler, AICP/PP	Brick Township Planning	Township of Brick CRS Coordinator	Deputy Chair	x		
5	L. Stanton Hales, Jr.	Barnegat Bay Partnership	Stakeholder/Watershed Committee	Non-government stakeholder		x	
6	Art Halloran	Council President	Township of Brick	Council Representative Resident		x	
7	Ron Jampel	Public	Resident	Resident		x	
8	Rob Karl (Alternate - Steve Specht)	Brick Township MUA	Brick MUA			x	
9	Thomas Kaczmarek	Public	Resident	Resident		x	
10	Brian Martin	Public	Resident	Resident		x	



	Member	Title	Representing	Committee Title	Gov't	Non-Gov't Stakeholder	Non-voting
11	Dan Newman (Alternate - Ken Kiseli)	Brick - Construction Code Official	Township of Brick/ Resident	Resident	x		
12	Joe Pawlowicz (Alternate - Joe Gilsenan)	OEM Coordinator	Emergency Management Office/ Resident	Resident	x		
13	Tara Paxton, AICP/PP	Brick Township Planning	Township of Brick AICP/PP Planner	Chair/Resident	x		
14	H.L Van Varick	Public	Resident	Resident		x	

Progress Report Approval

The Floodplain Management Planning Committee reviewed and provided comments on a draft progress report at its meeting held on July 26, 2017. The final report was reviewed and approved at its semi-annual meeting held on August 21, 2017.

SUMMARY OVERVIEW OF THE PLAN'S PROGRESS

The performance period for the Floodplain Management Plan became effective on August 9, 2016, with adoption by the Township Council. The Plan had been previously adopted by the Planning Board on March 30, 2016. The initial performance period for this plan will be five years, with an anticipated update to the plan to occur before October 1, 2021. As of this reporting period, the performance period for this plan is considered to be 36% complete. At the time of its development, the Floodplain Management Plan identified 128 flood hazard mitigation initiatives to be pursued during the five year performance period. During the plan review process two initiatives were split into multiple initiatives and seven new initiatives were added, resulting in a total of 137 initiatives. As of the reporting period, the overall progress is summarized below. It is noted that percentages reflect the original number of actions and that the Township added a total of eight additional actions.

- 46 out of 128 initiatives (36%) reported ongoing action toward completion.
- 25 out of 128 initiatives (20%) were reported as being complete.
- 25 out of the 128 (20%) initiatives were reported as ongoing, but complete for this reporting period.
- 15 out of 128 initiatives (12%) reported no action taken.
- 18 out of 128 initiatives (14%) were discontinued.
- 9 out of 137 initiatives (7%) were newly added.

FLOOD EVENTS WITHIN THE PLANNING AREA

During the reporting period, there were four flood events in the planning area that had a measurable impact on people or property. A summary of these events is as follows:



- **December 9, 2014 (Nor'easter)**—A strong Nor'easter brought strong winds and caused minor to moderate tidal flooding in Upper Delaware Bay and around Raritan Bay and moderate tidal flooding in Lower Delaware Bay and Atlantic Coastal New Jersey. The storm also caused minor to moderate beach erosion. Storm rainfall totals averaged one to three inches, with the highest amounts in the coastal counties. Peak wind gusts averaged 45 to 55 mph along the coastal portion of New Jersey. The winds downed weak trees, tree limbs and power lines. Tidal flooding affected all coastal counties in the State. In Ocean County, a steel sea wall was exposed in Mantoloking and Brick. In Brick Township, peak wind gusts reached 50 mph and rainfall totals measured at 2.9 inches.
- **June 27-28, 2015 (Flash Flood)**—Showers and thunderstorms brought heavy rain to New Jersey and caused poor drainage and flash flooding in the southern portion of the state. In Ocean County, flash flood warnings were issued by the National Weather Service (NWS). Thunderstorms brought very heavy rain which led to flash flooding of smaller streams as well as poor drainage flooding. In Brick Township, total rainfall was 4.71 inches.
- **October 1-4, 2015 (Nor'easter)**—Several inches of rain in the Jersey Shore area, including Ocean County, as a result of a Nor'easter. Wind speeds reached up to 40 mph. The NWS issued a high wind warning and coastal flood warning for Ocean and Cape May Counties. The beaches at Mantoloking and Brick were closed following the storm due to dangerous drop-offs between a protective steel flood wall and the beach. The severe beach erosion at these locations resulted in drop-offs ranging between 5 to 10 feet.
- **January 10, 2016 (High Tides, Rain and Flooding)**—Rain, wind and the moon phase caused low-lying areas to flood in Brick Township around Barnegat Bay. Rising water was noted around 10am on January 10 in areas along the bayside of Route 35 in the Journey's End area of the Normandy Beach section, as well as in the Shore Acres section on the mainland.

In addition to these events, a number of other flood occurrences were noted by the Planning Committee:

- The Metedeconk River briefly hit flood stage on April 1, 2017.
- Intrusion from saltwater regularly corrodes Township infrastructure.
- A number of areas in the Township continue to regularly experience nuisance flooding, including Shore Acres, Cherry Quay, Normandy Beach, Beaver Dam Creek Islands and Seaward Harbor. Specific streets documented with minor flood events for which the Township public works crew needed to 'respond' to flooding events as documented by the Township include:
 - Vanard Drive
 - Shoreline Drive
 - Broad Avenue
 - Arrowhead Drive
 - Gale Road
 - Rochester Drive
 - Hamilton Drive
 - Brower Drive
 - Holly Court
 - Canis Drive
 - Tilford Boulevard
 - Godfrey Lake
 - Fieldcrest Drive
 - Spruce Court
 - Cedarhurst Drive
 - Northrup Drive
 - Vannote Drive
 - Cumberland Drive
 - Island Drive
 - North Drive
 - South Drive
 - Mandalay Road
 - Liverpool Drive
 - 19th Avenue

CHANGES IN RISK EXPOSURE IN THE PLANNING AREA

The following changes in the Township were noted by the Planning Committee as being relevant to flood risk exposure in the planning area:



- Construction of a steel revetment wall along the Township's beachfront has been completed. A December beach replenishment effort will cover and re-establish the dune system lost in Superstorm Sandy.
- A major development has been approved on the barrier island. An approval for 21 houses on a lot that was formerly a church was approved. Other than some initial site improvements, construction on the project has not started at the time of this report. It is anticipated that the redevelopment will result in a reduction of impervious surface area on the lot.
- A major development project is poised to come before the zoning board. The proposed development will be located on the south side of Camp Osborne and will include seven homes. The area previously was developed with 35 cottages that were destroyed during Superstorm Sandy.
- Outfalls in the Township continue to back up at high tide and during storms. These issues were previously only occurring during king tides. Winds continue to push up the Bay exacerbating these issues in fall, winter and spring months.
- A total of 411 structures have been elevated since initial plan development.
- A total of 184 structures, on the NFIP negative rating list have been brought into compliance during the reporting period. This is approximately 28 percent of the negative rated structures in the Township.
- Township professionals are working with other property owners to ensure compliant structures replace those that were destroyed by Sandy.
- Upcoming map revisions may result in unforeseen changes in regulatory flood elevations.

FLOOD MITIGATION SUCCESS STORIES

The Planning Committee would like to highlight the following flood mitigation success stories that occurred during the reporting period:

- The Township received a letter of compliance with the NFIP program allowing submittal of an application to the CRS program. The Township entered into the CRS with a Class 6 rating.
- Thirty-six repetitive loss properties and two severe repetitive loss properties, some of which were also noncompliant with floodplain management regulations, have been mitigated.
- Brick Township Municipal Utilities Authority (BTMUA) applied for and received Hazard Mitigation Grant Program (HMGP) funding to elevate eight pump stations that were damaged during Superstorm Sandy.
- The Township Department of Public Works has conducted 22 catch basin repairs and 12 major installations, which include the replacement of basins and outfalls.
- The center lines of approximately one half mile of Township roads were elevated to half a foot above the gutter by Township Engineering to make them passable during nuisance flooding events.

CONTINUING PUBLIC INVOLVEMENT

No public meetings, other than the Planning Committee progress report meetings, were held specifically on the Floodplain Management Plan during the reporting period; however, the Township conducted a number of outreach activities related to CRS participation and flood education and awareness. No comments were received on the Floodplain Management Plan, although one public comment was received complimenting the Township on the Floodplain Management Plan website.



REVIEW OF THE ACTION PLAN

Table 2 reviews the action plan, reporting the status of each initiative. Reviewers of this report should refer to the Floodplain Management Plan for more detailed descriptions of each initiative and the prioritization process.



Table 2. Action Plan Matrix

Lead Agency	Timeline	Priority Changed?	Comment (Describe progress or changed priority)	Status
Brick Township (BT)				
Initiative BK-001—Install permanent generators in Township schools which serve as shelters (Brick Memorial High School, Brick Township High School, Herbertsville School, Lake Riveria Middle School, Midstreams Elementary School, Osbornville School, and Veterans Memorial Middle School), the Township Municipal Building (home of the EOC), the Township Department of Public Works, senior centers (Laurelton Village, Meridian Nursing & Rehab, Ocean Medical Center Acute Care of the Elderly Unit, and Shorrock Gardens Care Center), and temporary housing centers, as well as Mantoloking Road, Morris Avenue, and Ridge Road Water booster stations				
BT Administrator	Short Term (<5yrs.)	No	Funding was received for generator installation in some schools; however, the Township is currently seeking a grant amendment that allows this funding to be used to secure a generator for the EOC/police station located in the Municipal Building. This adjustment is being made as the police station is seen as the higher priority need.	In Progress
Initiative BK-002—Priority focus on permanent generator installation is for the Municipal Complex, Department of Public Work and the Police Sub-Station/ Pioneer Hose Fire Company Barrier Island Forward Command Post				
BT Engineering	Short Term (<5yrs.)	No	This initiative is redundant with other initiatives. Installation of generator at Municipal Complex is addressed in BK-001 and Department of Public Works will be added to the list of locations needing generators. The Police Sub-Station/ Pioneer Hose Fire Company Barrier Island Forward Command Post has had a generator installed as addressed in BK-052.	Discontinue
Initiative BK-003—Develop an alternate fuel supply for the emergency generators at the William Miller Water Treatment Plant				
BTMUA	Short Term (<5yrs.)	No	BTMUA staff assessed the issue and determined that it was preferable to continue with diesel fuel based on specifications of generators. Three generators were installed (with one for redundancy) and storage for fuel for 72 hours was included in project design in 2/2017.	Complete
Initiative BK-004—Upgrade sewer system generators				
BTMUA	Short Term (<5yrs.)	No	Of the 26 pump stations, 6 have new generators that run on natural gas. All stations that were impacted by Superstorm Sandy were assessed. Two impacted stations were found not to need permanent generators, so 3 portable generators were purchased. In addition, 4 pump stations were upgraded to natural gas. Phase 2 of pump station renovations will include upgrading another 9 stations with generators.	In Progress



Lead Agency	Timeline	Priority Changed?	Comment (Describe progress or changed priority)	Status
Initiative BK-005—Upgrade generators at five of the transition centers, including: Brick Township High School, Ocean County Vocational-Technical School, Emma Havens Young School, and Veterans Memorial Middle School				
BT Board of Education	Short Term (<5yrs.)	No	Funding was received for generators at some of the transition centers; however, the Township has submitted a request for this funding to be reallocated (see BK-001).	In Progress
Initiative BK-006—Elevate electrical equipment, controls, instrumentation and emergency generators in all municipal facilities above the base flood elevation to continue critical community services during utility interruptions and storm events				
BT Engineering	Short Term (<5yrs.)	No	This initiative refers mainly to the Police Sub-station and elevation of equipment has been accomplished.	Complete
Initiative BK-007—Develop a FEMA 361 Shelter for New Police Department Station				
BT OEM	Short Term (<5yrs.)	No	Inclusion of a FEMA 361 shelter will be considered in discussions with the architect regarding the construction of the barrier island police, fire and EMS station.	In Progress
Initiative BK-008—Enhance emergency evacuation route signage, especially in Cherry Quay.				
BT OEM	Short Term (<5yrs.)	No	OEM will go out and map evacuation routes to see what changes have been made. Coordination with County needs to occur as they are responsible for many of the roads.	No Progress
Initiative BK-009—Elevate evacuation routes, including South Drive in Princeton Midstreams, Snake Road, and the Shore Acres Neighborhood. The elevation would be for approximately 400 feet of South Drive and would eliminate a local low point that causes the repeated flooding of residential structures. This elevation would also provide overland flow relief and allow the road to drain via gravity.				
BT Engineering	Short Term (<5yrs.)	No	Plans for South Drive are currently under review. The road may not be fully elevated as such elevations require reconstruction of all driveways with access to elevated road. A center line elevation is under consideration. There also was a drainage project constructed mid-block and check-valve installed. The center line was also elevated on Snake Road, which will improve access for Seaward Harbor. One road was paved with a center line elevation in Shore Acres. Noted obstacles with this initiative are the cost to construct driveway connections if the entire road is raised and that roads should not be raised if houses in the area are not elevated.	In Progress
Initiative BK-010—Improve drainage at six locations, including the installation of a floodgate at Brick Beach 3				
BT Engineering	Long Term (5+yrs.)	No	There are many obstacles to implementing initiative including logistics, funding, and environmental regulations. Due to the scale and complexity, this would be better suited as an Army Corps of Engineers project. Initiative is removed pending Army Corps of Engineers cooperation.	No Progress



Lead Agency	Timeline	Priority Changed?	Comment (Describe progress or changed priority)	Status
Initiative BK-011—Maintain current drainage systems at appropriate care level				
BT DPW	Ongoing	No	A new jet/vac, which can be used 12 months per year was purchased. As of June 2017, 333 basins have been cleaned.	Complete/ Ongoing
Initiative BK-012—Increase conveyance through storm sewer and channels by dredging, culvert sizing, debris removal, de-snagging, and sewer flushing				
BT DPW	Short Term (<5yrs.)	No	Many of these activities are being conducted as part of the maintenance care discussed in BK-011 and are, therefore, redundant. In addition, the issues associated with flooding and the conveyance system in the Township are a result of tidal flooding, not a result of inadequately sized culverts.	Discontinue
Initiative BK-013—Clean all critical storm drains and keep drainage facilities free from debris				
BT DPW	Ongoing	No	There are approximately 8,600 storm drains in the Township and it is not possible to clean all 8,600 in one year. Currently, DPW is operating in a response only mode, meaning drains are only cleaned as issues arise. With additional funding, man power, and another jet vac the Department would be able to develop a schedule that would result in less need for response and a more efficient use of resources. 973 storm drains were cleaned in 2016.	In Progress
Initiative BK-014—Improve/repair failing septic systems.				
BT Code Enforcement	Short Term (<5yrs.)	No	Approximately 98% of the Township is on the public sewer system. The Township does not have jurisdiction over any septic tanks as they are regulated by the NJ State Department of Health.	Discontinue
Initiative BK-015—Promote I&I protection of sewer systems				
BTMUA	Ongoing	No	This initiative is ongoing. Sewer mains and lining projects are occurring continuously and will continue to occur with regularity given the Township's high water table.	Complete/ Ongoing
Initiative BK-016—Elevate the equipment from dry wells				
BT Engineering	Short Term (<5yrs.)	No	As a result of a policy change, the Township is no longer requiring a dry well system in high water table, tidally influenced areas. No additional action needed.	Complete
Initiative BK-017—Install Tideflex valves where appropriate				
BT Engineering	Short Term (<5yrs.)	No	Tideflex valves are installed as roads jobs are completed in tidal areas. Two were installed on Broad Ave, one on South Drive and one on Shore Drive in Shore Acres.	In Progress



Lead Agency	Timeline	Priority Changed?	Comment (Describe progress or changed priority)	Status
			Additionally, a valve was installed on Paul Jones drive, but it has been repeatedly knocked out.	
Initiative BK-018—Acquire a drainage easement of over 300 square feet of private property abutting Broad Avenue and South Harbor Lagoon to develop a low-lying runoff collection point, reconstruct the drainage system, and provide a tide check valve on the outfall pipe. This would allow the Broad Avenue pavement surface to be elevated to prevent flooding without causing flooding to adjacent properties.				
BT Engineering	Long Term (5+yrs.)	No	This initiative was completed in Fall of 2016. An easement was not required as the Township already owns 15 feet of property.	Complete
Initiative BK-019—Perform a study to determine the feasibility of the installation of an outlet structure on Cherry Quay by Boom Lane. Such a structure should be constructed to maintain a consistent water surface elevation range. Overflow could be conveyed through the existing drainage system in residential streets and outfall into the Barnegat Bay through an existing drainage outfall. A path of overflow for overland flood relief could be provided for when the pond elevation reaches a flood stage that cannot be conveyed hydraulically through the existing drainage system.				
BT Engineering	Short Term (<5yrs.)	No	Lack of funding. Initiative wording revised.	No Progress
Initiative BK-020—Upgrade and improve infrastructure and capacity to allow for uninterrupted service during hazard events:				
i. Flood proof the raw water pump stations located on the Metedeconk River. ii. Flood proof the wastewater stations located on Drum Point Road and Riverside Drive. iii. Install emergency generators at three major water booster pump stations iv. Enhance local communications v. Convert pump stations to submersible pumps				
BTMUA	Long Term (5+yrs.)	No	<p>This initiative was divided into two initiatives to be reported on separately (see Also BK-131).</p> <ul style="list-style-type: none"> i. Pump stations were flood proofed on the Metedeconk River using HMGP funds. The Bay Harbor Boulevard station mentioned in the original wording of the initiative does not require flood proofing. ii. Using remaining HMGP funds, MUA is hoping to amend the scope to flood proof the Riverfront Drive and Drum Point Road wastewater stations. iii. Emergency generators were installed at three major water booster pump stations using HMGP Energy funds. iv. The radio system was upgraded after Superstorm Sandy v. Eight waste water pump stations were elevated and upgraded with submersible pumps in March 2017. An additional nine stations are being converted and the projects are currently in the design phase. State 	In Progress



Lead Agency	Timeline	Priority Changed?	Comment (Describe progress or changed priority)	Status
			revolving funds of the New Jersey Environmental Infrastructure Trust (NJEIT) are possible sources of funding.	
Initiative BK-021—Elevate roads, particularly those adjacent to waterways.				
BT Engineering	Short Term (<5yrs.)	No	Elevation was conducted solely for vehicular access as during flooding resulting from lunar tide events. The Township is pursuing a grant to elevate the road a full two feet. Additional elevation is addressed by BK-009.	Complete
Initiative BK-022—Elevate Snake Road to prevent overtopping of roadway during regular lunar tidal events. Surface elevation needs to be increased by approximately 4,000 feet of the access road. This road is the sole vehicular access point for the Seawood Harbor residential community.				
BT Engineering	Short Term (<5yrs.)	No	Elevation was conducted solely for vehicular access as during flooding resulting from lunar tide events in August of 2016. The Township is pursuing a grant to elevate the road a full two feet. Additional elevation is addressed by BK-009.	Complete
Initiative BK-023—Consider raised roads with side protection, which can dual function as levees, near Barnegat Bay				
BT Engineering	Short Term (<5yrs.)	No	No progress. The Township is considering this action on roads such as Channel Drive. Implementation is dependent on additional funding/grants.	No Progress
Initiative BK-024—Harden existing infrastructure				
BT Engineering	Ongoing	No	Some improvements have been made as addressed in other initiatives, such as improvements to the police sub-station, road elevations, and pump stations.	In Progress
Initiative BK-025—Replace older and unsafe bridges and culverts including the Route 70 and Route 88 culverts, the Jordan Road White Bridge (raise) and those identified in the capital improvement plan.				
State of NJ and Ocean County	Ongoing	No	The Jordan Road White Bridge is scheduled to be replaced. Route 88 is scheduled to be widened, but may not be elevated.	In Progress
Initiative BK-026—Improve street sweeping methods and frequencies to reduce pollutants entrained in runoff from impervious streets and parking lots.				
BT DPW	Ongoing	No	The Township has purchased a new vacuum based sweeper that allows year-round street sweeping.	Complete/ Ongoing



Lead Agency	Timeline	Priority Changed?	Comment (Describe progress or changed priority)	Status
Initiative BK-027—Relocate, and/or retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation and inform candidates/public as appropriate. Phase 2: Where retrofitting is determined to be a viable option, work with the property owner to implement that action based on available funding from FEMA and local match availability. This action supports and promotes retrofitting and elevation of 2,000 homes that fall within flood vulnerable areas and the acquisition and demolition of 45 homes as identified by the Township.				
BT Planning	Long Term (5+ yrs.)	No	Acquisition is not currently a priority for the Township and will be split off as a separate, new action (see BK-132). The current priority is retrofitting and ensuring that residents' homes are in compliance with floodplain regulations. A number of properties, including repetitive loss properties have been elevated. Some elevations occurred as part of the RREM program.	In Progress
Initiative BK-028—Support funding for acquisition or elevation of three Severe Repetitive Loss properties. This may be addressed by submitting a Township or joint municipal HMA (FMA) grant application.				
BT Planning	Short Term (<5 yrs.)	No	Two severe repetitive loss properties have been elevated.	In Progress
Initiative BK-029—Support funding for acquisition or elevation of 20 Repetitive Loss properties. This may be addressed by submitting a Township or joint municipal HMA grant application				
BT Planning	Short Term (<5 yrs.)	No	The Township applied for a Hazard Mitigation Assistance grant for 10 properties about 3 years ago. The application was not chosen for funding. The Township will consider reapplying after reviewing the funding priorities for the next grant cycle.	In Progress
Initiative BK-030—Support and promote the retrofit of buildings to meet hurricane-force wind needs				
BT Code Enforcement	Long Term (5+ yrs.)	No	This is addressed through uniform construction code as per Bulletin # 13-1A.	In Progress
Initiative BK-031—Build new critical facilities outside of the floodplain and retrofit existing critical facilities that are located within the floodplain to be flood proofed, where possible.				
BT Planning	Long Term (5+ yrs.)	Yes – changed to Low	The only critical facilities located within the floodplain are the police and fire substations, which are located on the same property and are auxiliary facilities. Other initiatives are looking at reconstruction of these facilities to more resilient standards.	In Progress
Initiative BK-032—Increase the height of the bulkheads along Barnegat Bay (with or without movable panels) as appropriate				
BT Engineering	Short Term (<5 yrs.)	No	Currently, the State limits bulkheads to 18 inches. Moveable panels may not be technically feasible.	No Progress



Lead Agency	Timeline	Priority Changed?	Comment (Describe progress or changed priority)	Status
Initiative BK-033—Construct new metal sheet bulkheads (with or without movable panels) and incorporate check valves inside the bulkheads as appropriate				
BT Engineering	Short Term (<5yrs.)	No	This initiative is redundant with BK-017.	Discontinue
Initiative BK-034—Construct new concrete flood walls and flood gates (with or without movable flood panels) and incorporate check valves inside the walls as appropriate				
BT Engineering	Short Term (<5yrs.)	No	This initiative is not a Township priority and is not likely to be feasible given topographic conditions, amount of private property impacted, and logistical feasibility.	Discontinue
Initiative BK-035—Construct new levee/dike including culvert or pipe with flap gate/check valve as appropriate				
BT Engineering	Short Term (<5yrs.)	No	This initiative is not a Township priority and is not likely to be feasible given topographic conditions, amount of private property impacted, and logistical feasibility.	Discontinue
Initiative BK-036—Construct sluice gates or in-water barriers for dredged lagoons as appropriate				
BT Engineering	Short Term (<5yrs.)	No	This initiative is beyond the capabilities of the Township and is more appropriately considered as an Army Corps of Engineers project. Removed pending an Army Corps study or recommendations	Discontinue
Initiative BK-038—Add stormwater collection areas and bypass force mains for elevated areas to improve stormwater drainage and prevent issues related to submerged outflow pipes as appropriate				
BT Engineering	Short Term (<5yrs.)	No	This initiative is redundant with BK-067.	Discontinue
Initiative BK-039—Construct stormwater gravel wetlands, which rely on a dense root mat, crushed stone, and an anaerobic and microbe-rich subsurface.				
NJ DOT	Short Term (<5yrs.)	No	Detention basins on Route 70 were converted to gravel wetlands with HMGP funds. Technique will be considered in future projects as basins are redone or fail.	In Progress
Initiative BK-040—Township officials provide technical information and guidance, when needed				
BT Engineering	Ongoing	No	This is a daily, ongoing activity. The availability of this service has been widely publicized.	Complete/ Ongoing
Initiative BK-041—Provide information on residential, business, and natural resource grant programs to residents				
BT Planning	Ongoing	No	This is an ongoing activity as information is provided through various means, such as enforcement letters, Summerfest, and long term recovery meetings.	Complete/ Ongoing



Lead Agency	Timeline	Priority Changed?	Comment (Describe progress or changed priority)	Status
Initiative BK-042—Develop an app to link to public website for pre-, during- and post-disaster information.				
BT Planning	Short Term (<5yrs.)	No	The Township has started use of Nixle, which limits the need for the development of an app. Residents are encouraged to sign up for Nixle alerts. This action will be considered an ongoing capability of the Township.	Complete
Initiative BK-043—Create website for pre-storm information dissemination, including shelter locations				
BT Planning	Short Term (<5yrs.)	No	This information is provided on the Township website.	Complete
Initiative BK-044—Acquire computers for senior communities so that residents have access to information on disaster mitigation, preparedness, response and recovery				
BT Administrator	Short Term (<5yrs.)	No	The need for this initiative is unclear and there is a lack of funding to support implementation.	Discontinue
Initiative BK-045—Continue outreach programs in schools to include children in outreach and to improve families' disaster response capabilities				
BT Police	Ongoing	No	The next step for implementation will be to research available lesson plans and then incorporate them as appropriate into existing programs, such as the fire department's school-based programming.	No Progress
Initiative BK-046—Acquire critical warehouse infrastructure components				
BT OEM	Short Term (<5yrs.)	No	The Township has purchased a canopy to protect critical equipment that has been exposed to the elements at DPW. Canopy design will be able to hold solar panels in the future if so desired. A storage building is also slated for completion at Drum Point Sports Complex for the Parks Department in 2017. There is also a plan in progress to build a storage facility behind the municipal building, awaiting a CAFRA permit.	In Progress
Initiative BK-047—Develop field-deployed electronic mapping system				
BT GIS/Planning	Short Term (<5yrs.)	No	The Township is using field deployed tracking methods. The work flow software is tied to GIS mapping.	In Progress
Initiative BK-048—Obtain additional high wheeled vehicles for rescue operations.				
BT OEM	Short Term (<5yrs.)	No	The Township has obtained one mine-resistant ambush protected (MRAP) vehicles and four high-wheeled military box trucks, for a total of five vehicles. Vehicles were obtained as of August 2016.	Complete



Lead Agency	Timeline	Priority	Comment (Describe progress or changed priority)	Status
Changed?				
Initiative BK-049—Upgrade and automate the EOC to ensure state-of-the-art audio/visual equipment, sufficient space and security, and stand-alone ability				
BT OEM	Long Term (5+yrs.)	No	There is a plan to move the current Detective's Bureau and build a new EOC, which will be state of the art.	In Progress
Initiative BK-050—Develop reverse 911 system to assist in communication for all hazards				
BT OEM	Short Term (<5yrs.)	No	The Nixle notification system has been deployed in the Township as of August 2016.	Complete
Initiative BK-051—Support continuous operations of Emergency Support Services for the Barrier Island				
BT OEM	Ongoing	No	The Barrier Island is now a permanent district, so police officers are always assigned to the area 24/7.	Complete
Initiative BK-052—Mitigate Barrier Island Police Substation and Pioneer Fire Station to protect from flood related hazards				
BT Police	Short Term (<5yrs.)	No	A generator was purchased and it is elevated to at least one foot above the base flood elevation. There is an architect coming in July to begin discussion of a police, fire, and EMS station. Township staff will research grants that may be used to supplement local funding for construction/equipment for the new station.	In Progress
Initiative BK-053—Create system to document FEMA reimbursable expenses.				
BT Planning	Short Term (<5yrs.)	No	An Access database has been developed and there is a dedicated staff person assigned to the task.	Complete
Initiative BK-054—Capture/survey high water marks after flood events.				
BT Engineering	Ongoing	No	This initiative is an ongoing initiative that is considered complete for the reporting period. The Township routinely captures high water marks after flood events.	Complete/ Ongoing
Initiative BK-055—Utilize post-disaster assistance				
BT Administrator	Ongoing	No	Funded eight post-disaster plans and received generators through post-Sandy assistance. The plan development is complete as of July 2016. The generator acquisition is ongoing, but is addressed by BK-001.	Complete
Initiative BK-056—Obtain electric grid maps to assist in recovery after disruption of power				
BT OEM	Short Term (<5yrs.)	No	A portion of the paper maps have been secured during the reporting period.	Complete



Lead Agency	Timeline	Priority Changed?	Comment (Describe progress or changed priority)	Status
Initiative BK-057—Implement/participate in regional precipitation monitoring networks and other programs that enhance flood threat recognition capability				
BT Engineering	Ongoing	No	The Township works with MUA and Barneget Bay Partnership on grants that they receive for such activities and is currently working with DEP on modifications to infiltration requirements regulations	In Progress
Initiative BK-058—Identify critical facilities/infrastructure that require early notification during flood responses				
BT OEM	Ongoing	No	This information is included In the emergency operations plan and flood warning and response plan.	Complete
Initiative BK-059—Maintain existing data and gather new data needed to define risks and vulnerability				
BTMUA	Ongoing	No	A new monitoring station is being added by Route 70. There are already three stations downstream, so this addition will be the fourth. The station will be a tidal station.	In Progress
Initiative BK-060—Expand the Best Management Practices (BMP) subsection of the Stormwater Management Plan to emphasize green stormwater management techniques, such as bio-swales, rain gardens, offline regional treatment, and vegetative rooftop covers				
BTMUA	Short Term (<5yrs.)	No	The highest priority of the Watershed Management Plan was to develop a model stormwater ordinance that included more emphasis on green infrastructure standards. Discussion about how to count stormwater infiltration is ongoing, but the model ordinance is in final draft form. It is expected to be finalized by September 2017. The Township of Brick may pilot adoption of the ordinance.	In Progress
Initiative BK-061—Assess the stormwater management BMPs in other parts of the country for potential benefit to the Township				
BTMUA	Ongoing	No	BMPs have been assessed as part of the model ordinance development and BMPs will continue to be reviewed.	Complete/ Ongoing
Initiative BK-062—Supplement the Stormwater Management Plan to include details on drainage system maintenance and keeping channels and storage basins clear of debris for sufficient flood carrying and storage capacity				
BT DPW	Ongoing	No	This is an ongoing action that is considered complete for this reporting period. Information will be provided on progress taken when stormwater report is received.	Complete/ Ongoing
Initiative BK-063—Encourage compliance with NJ Department of Transportation legislation on state highway stormwater management issues for Routes 9, 35, 37, 70, 72, 88 and 166				
BT Engineering	Ongoing	No	NJ DOT was the lead for the basin conversions discussed in BK-039.	In Progress



Lead Agency	Timeline	Priority Changed?	Comment (Describe progress or changed priority)	Status
Initiative BK-064—Coordinate County, State, and Federal funding to maximize the effectiveness of stormwater protection and rehabilitation efforts				
BTMUA	Ongoing	No	Rain barrel program was supplemented with federal funding from the Barnegat Bay Partnership. Brick MUA applied for a NOAA coastal resiliency grant.	In Progress
Initiative BK-065—Identify and restore impaired stormwater management facilities to improve infiltration and reduce runoff throughout the watershed.				
BTMUA	Short Term (<5yrs.)	No	One bioretention retrofit project has been completed in Howell Township on Moses Milch Drive. Designs are almost finalized for a project that addresses Lakewood storm outlets that flow into Lake Carasaljo. Bioretention basins will reduce runoff. It is anticipated the project will go to bid in the fall. They have also been working with Federal Realty on green infrastructure projects for Brick Plaza, such as converting traffic islands to bioretention basins, as planned for this summer. Phase 2 of this project will be to pursue green infrastructure best management practices and stream restoration activities that have a water quality nexus.	In Progress
Initiative BK-066—Construct additional facilities to collect and provide temporary storage of stormwater runoff to promote infiltration through highly permeable soils.				
BTMUA	Short Term (<5yrs.)	No	Several such facilities were built on the MUA campus, including four rain gardens and two more are planned.	In Progress
Initiative BK-067—Investigate the benefits of bypass force main, tide barriers, stormwater pump systems, surge barriers, and mobile flood barriers.				
BT Engineering	Short Term (<5yrs.)	No	No formal study has been conducted or is currently in progress. Some private property owners have installed mobile flood barriers.	No Progress
Initiative BK-068—Identify BMPs that individual property owners can implement.				
BTMUA	Ongoing	No	This is an ongoing initiative conducted as part of outreach. Several well received "build your own" rain barrel workshops have been conducted. A community rain garden workshop is also planned for fall 2017	Complete/ Ongoing
Initiative BK-069—Enforce minimum National Flood Insurance Program requirements and proactively support floodplain management property protection and outreach requirements				
BT Code Enforcement/ Engineering	Ongoing	No	This is an ongoing initiative conducted within the normal work flow process.	Complete/ Ongoing



Lead Agency	Timeline	Priority Changed?	Comment (Describe progress or changed priority)	Status
Initiative BK-070—Adopt appropriate enhanced regulatory standards, such as increased freeboard standards, cumulative substantial improvement or damage, lower substantial damage threshold, compensatory storage, and non-conversion deed restrictions				
BT Code Enforcement/ Engineering	Short Term (<5yrs.)	No	The Township has a one foot freeboard requirement. Cumulative substantial damage/improvement language is in draft form for consideration.	In Progress
Initiative BK-071—Supplement the Flood Prevention Ordinance or adding regulations to the Township Code requiring removal or securing of boats, floating docks, gangways, etc. from water bodies within a specified period from the issuance of an order from Emergency Management personnel.				
BT Code Enforcement/ Engineering	Short Term (<5yrs.)	No	A draft ordinance addressing these issues has been developed	In Progress
Initiative BK-072—Prohibit the construction of occupied structures seaward of the mean high water line or on piers or platforms except for essential structures for “functionally dependent uses” such as marinas or boatyards				
BT Code Enforcement/ Engineering	Short Term (<5yrs.)	No	Occupied structures are prohibited per state regulations. Intent of this initiative is unclear.	Discontinue
Initiative BK-073—Update existing regulations to account for the impacts of climate change				
BT Code Enforcement/ Engineering	Short Term (<5yrs.)	No		No Progress
Initiative BK-074—Continue to implement a “no-adverse impact” floodplain management policy.				
BT Code Enforcement/ Engineering	Short Term (<5yrs.)	No	Township stormwater regulations support this policy.	Ongoing
Initiative BK-075—Implement as-built regulatory requirements				
BT Code Enforcement/ Engineering	Ongoing	No	This is an ongoing initiative. Changes to requirements are made at the state level.	Complete/ Ongoing



Lead Agency	Timeline	Priority Changed?	Comment (Describe progress or changed priority)	Status
Initiative BK-076—Use Re-sale Certification of Occupancy to catch up with substantially damaged structures and regulate safe re-building practices				
BT Code Enforcement/ Engineering	Long Term (5+ yrs.)	No	No progress while administration reviews other alternatives..	No Progress
Initiative BK-077—Utilize the most recent FEMA FIRMs to assist property owners in rebuilding to or above regulatory standards				
BT Code Enforcement/ Engineering	Ongoing	No	The Township is utilizing the most recent FIRMs and will continue to do so.	Complete/ Ongoing
Initiative BK-078—Join CRS program to complete pro-active floodplain management and assist residents with flood insurance costs				
BT Code Enforcement/ Engineering	Short Term (<5 yrs.)	No	The Township applied and was accepted to CRS, obtaining a Class 6 rating on May 1, 2017.	Complete
Initiative BK-079—Implement site review ordinances/requirements				
BT Code Enforcement/ Engineering	Ongoing	No	This is an ongoing initiative that is part of standard operating procedures.	Complete/ Ongoing
Initiative BK-080—Integrate climate change considerations into planning guidelines and standards.				
BT Planning	Short Term (<5 yrs.)	No	Initial guidelines were developed as part of Neighborhood Plans.	In Progress
Initiative BK-081—Develop design standards to address the visual impact of mitigation measures such as elevating bulkheads, elevating buildings on foundations or pilings				
BT Code Enforcement/ Engineering	Short Term (<5 yrs.)	No	Some standards have been developed for plantings and lattice for elevated homes.	In Progress
Initiative BK-082—Continue to enforce building codes to require building, renovations, and re-building so that all buildings meet the Uniform Construction Code				
BT Code Enforcement/ Engineering	Ongoing	No	This is an ongoing initiative that is part of standard operating procedures.	In Progress



Lead Agency	Timeline	Priority Changed?	Comment (Describe progress or changed priority)	Status
Initiative BK-083—Develop low-impact development guidelines for new development and redevelopment.				
BT Code Enforcement/ Engineering/BT MUA	Short Term (<5yrs.)	No	BTMUA is working with a consultant to develop guidelines for low impact development/green infrastructure through a model ordinance. Low impact development (LID) is a common theme throughout the watershed plan and numerous LID strategies are included in Appendix C of the ordinance. BTMUA is also relying on the NJDEP's Stormwater BMP Manual for LID strategies. In addition, BTMUA supported development of a recently-released New Jersey Developers' Green Infrastructure Guide with NJ Future and NJBA, (http://www.njfutre.org/wp-content/uploads/2017/03/NJ-Developers-Green-Infrastructure-Guide_FINAL_web.pdf).	In Progress
Initiative BK-084—Develop a Fertilizer Application Ordinance to control reduce the amount of damaging non-point source pollution during storm events				
BT Code Enforcement/ Engineering	Short Term (<5yrs.)	No	Resolution 475-14, supporting the fertilizer restrictions established by state law, was adopted. Therefore no further action is required by the Township.	Discontinue
Initiative BK-085—Ensure post-disaster code enforcement and inspection to protect properties in the process of being re-built and built				
BT Code Enforcement/ Engineering/ Planning	Ongoing	No	The State has an emergency inspection program in place. This initiative is ongoing.	Complete/ Ongoing
Initiative BK-086—Continue to take a proactive approach to the NJ Soils Health Legislation by working with the Ocean County Soil Conservation District to promote construction practices to maintain soil health and reduce compaction.				
Ocean County Soil Conservation District	Ongoing	No	This initiative is ongoing and is considered complete for this reporting period. There has been a rule proposal regarding new standards.	Complete/ Ongoing
Initiative BK-087—Encourage and support compliance with the NJ Fertilizer Law.				
NJDEP	Ongoing	No	Resolution 475-14, supporting the fertilizer restrictions established by state law, was adopted.	Complete



Lead Agency	Timeline	Priority Changed?	Comment (Describe progress or changed priority)	Status
Initiative BK-088—Enact tools to help manage development in hazard areas.				
BT Planning	Ongoing	No	The Township has adopted minimum NJ standards plus 1 foot of freeboard. Initiative is considered complete as of 2013.	Complete
Initiative BK-089—Adopt additional appropriate land use development criteria, such as planned unit developments, density transfers clustering				
BT Planning	Short Term (<5yrs.)	No		No Progress
Initiative BK-090—Consider the residual risk associated with structural flood control in land use and land development plans				
BT Planning	Ongoing	No	This initiative is ongoing, and is considered complete for this reporting period. There are no regulations or adopted ordinances pertaining to residual risk; however, there are plans for response in place.	Complete/ Ongoing
Initiative BK-091—Develop and adopt a continuity of operations plan (COOP)				
BT OEM	Short Term (<5yrs.)	No	The Township has internally begun development of a COOP.	In Progress
Initiative BK-092—Maintain the all-hazards Emergency Operations Plan (EOP)				
BT OEM	Ongoing	No	The EOP was most recently approved by the State on May 31st, It must be reviewed every four years.	Complete
Initiative BK-093—Develop and implement Shelter Management Plans				
BT OEM	Ongoing	No	Shelter Management Plans are a state-wide issue. Schools are not supported by generators.	In Progress
Initiative BK-094—Integrate hazard mitigation into the Master Plan				
BT Planning	Short Term (<5yrs.)	No	Adopted a hazard mitigation element to the master plan in March of 2016	Complete
Initiative BK-095—Integrate flood management policies into other Township planning mechanisms				
BT Planning	Ongoing	No	Flood management policies have been integrated as specified by many other initiatives identified in this progress report.	Complete
Initiative BK-096—Incorporate retrofitting/replacement of critical system elements in capital improvement planning.				
BT Planning	Ongoing	No	This initiative is ongoing and is considered complete for this reporting period.	Complete/ Ongoing



Lead Agency	Timeline	Priority Changed?	Comment (Describe progress or changed priority)	Status
Initiative BK-097—Continue to work with the Barnegat Bay Partnership to target research and assessment efforts.				
BT Planning	Ongoing	No	This initiative is ongoing and is considered complete for this reporting period. The Barnegat Bay Partnership serves as a member of the plan committee. Brick Township will include any appropriate initiatives in the Comprehensive Conservation Management Plan (CCMP).	Complete/ Ongoing
Initiative BK-098—Develop a building and elevation inventory of structures in the floodplain				
BT Engineering	Ongoing	No	Aerial imaging does not capture finished floor elevations. The Township is developing a database based on documentation provided as part of permitting process. The database is progressing quickly due to the amount of reconstruction that has occurred within the Township.	In Progress
Initiative BK-099—Improve the Township's mapping capability to increase access to information and adding additional AutoCAD software, as necessary to support mapping capabilities				
BT Engineering	Ongoing	No	The Township has purchased CAD and Land Desktop and has obtained "read only" access to MUA infrastructure information so that field crews can review information while out in the field. The Township is scheduled for aerial imaging in Winter of 2018.	In Progress
Initiative BK-100—Conduct Local Emergency Planning Committee (LEPC) meetings every month and perform drills to prevent hazardous materials accidents				
BT OEM	Ongoing	No	This initiative is ongoing but is considered complete for the current progress report performance period. The LEPC meets quarterly and conducts two drills per year.	Complete/ Ongoing
Initiative BK-101—Identify agricultural BMPs to control runoff from crops and livestock.				
BTMUA	Short Term (<5yrs.)	No	This issue is upstream of Brick Township and is addressed in the watershed management plan.	Complete/ Ongoing
Initiative BK-102—Implement stronger pet waste and fertilizer management protocols and ordinances to reduce pathogen and nutrient contributions at the household scale. Goose management programs have been recommended for implementation in the fecal coliform and total coliform total maximum daily loads (TMDLs) throughout the watershed.				
BTMUA/BT	Ongoing	No	The Township has an ordinance addressing these issues. BTMUA is conducting biofage testing. Brick Township purchased pooper scooper stations for all municipal parks and at the reservoir.	In Progress



Lead Agency	Timeline	Priority Changed?	Comment (Describe progress or changed priority)	Status
Initiative BK-103—Support the USACE beach repair, restoration, and replenishment project				
BT Engineering	Short Term (<5yrs.)	No	In progress. The construction timeline is two years. Construction in Brick Township is currently scheduled for March, 2018 through July, 2018.	In Progress
Initiative BK-104—Provide beach fill as necessary				
BT Engineering	Ongoing	No	Ongoing, as needed.	Complete/ Ongoing
Initiative BK-105—Maintain and improve dunes and maintain natural beach habitat and bay habitat				
BT Engineering	Ongoing	No	Some natural beach habitats were severely impacted by Superstorm Sandy. The Township is working to assist in their recovery through planting events with donated plants and beach cleanups.	In Progress
Initiative BK-106—Repair bulkheads and install revetments to protect from coastal erosion.				
BT Engineering	Other, please specify	No		In Progress
Initiative BK-107—Construct beach revetment				
NJ DEP/ BT Engineering	Short Term (<5yrs.)	No	Initiative was completed in February 2015; however, the decorative cap on revetment has been slightly damaged during several storms. A permanent work order was requested after winter storm Jonas, but a meeting with FEMA had not yet been held at the time of this report.	In Progress
Initiative BK-108—Support easements for the ACOE beach replenishment project on the Barrier Island				
BT Engineering	Ongoing	No	The Township has provided support through exhibits and condemnation paperwork and will continue to support through litigation, if needed. This initiative is considered completed as of December 2016.	Complete
Initiative BK-109—Implement erosion control projects for Dock Road Beach, such as constructing a minor geotextile system to be installed upstream and downstream of the beach and/or establishing scour protection and velocity control at an existing drainage pipe outfall to Metedeconk River.				
BT Engineering	Short Term (<5yrs.)	No	This initiative was determined to not be viable.	Discontinue



Lead Agency	Timeline	Priority Changed?	Comment (Describe progress or changed priority)	Status
Initiative BK-110—Complete soil stabilization project at Bay Harbor Beach.				
BT Engineering	Short Term (<5yrs.)	No	Bay Harbor Beach stabilization project was completed Spring 2016. The project was an overwhelming success. The Township will duplicate the project at Cedar Bridge Manor Park and Mallard Point Park. Windward Beach project was included on original wording of initiative, but is not related to flood or erosion control and was removed.	Complete
Initiative BK-111—Restore a fire break on North Riverside Drive. The current fire break and soil stabilization systems are inadequate to prevent future disaster of the shoreline and to protect the adjacent Vanada Woods neighborhood from potential wildfire. The project would include demolition of the Macintosh House, boathouse, and partial removal of the bulkhead so that the shoreline can be stabilized. Ideally, the entire parcel will be returned to a more natural state.				
BT Engineering	Short Term (<5yrs.)	No	This initiative was completed in 2015. The Township will continue to maintain the fire break.	Complete
Initiative BK-112—Maintain Mallard Park to avoid coastal geotech erosion and mitigate flood related hazards				
BT DPW	Ongoing	No	A berm was built to address the problem. This initiative is complete as of April 2016.	Complete
Initiative BK-113—Redesign pond in Cherry Quay to provide increased flood retention				
BT Engineering	Short Term (<5yrs.)	No	This initiative is redundant with BK-019.	Discontinue
Initiative BK-114—Redesign the islands in Beaver Dam Creek for Princeton Midstreams to provide increased flood retention				
Private	Short Term (<5yrs.)	No	No physical activity has been initiated, but NJ DEP has altered regulations to allow for such activities provided an alternatives analysis is conducted. Some of the islands are privately owned although the Township will be taking ownership of one island. Generally speaking, the Township will assist with obtaining a permit and then transfer the permit to the private property owner.	No Progress
Initiative BK-115—Strategize responsible land protection methods to maintain/restore natural floodplain functions				
BT Engineering	Ongoing	No	The Township has taken ownership of several properties significant for natural floodplain functions through foreclosure of 29 properties (approximately 38 acres of which approximately 34 of which are within the floodplain) and one donation (Block 1025, Lot 56, approximately 5 acres and 80% in floodplain). The Mayor has committed to preserving these areas as open space thus protecting the natural floodplain functions.. In addition, Bay Harbor Beach Park was restored to a more natural state.	In Progress



Lead Agency	Timeline	Priority Changed?	Comment (Describe progress or changed priority)	Status
Initiative BK-116—Manage sediment and debris removal and provide regional retention, detention, infiltration and constructed wetland areas.				
BT Engineering	Ongoing	No	A Township intern is currently conducting an assessment for all basins.	In Progress
Initiative BK-117—Participate in regional watershed management				
BTMUA	Ongoing	No	This is an ongoing initiative that is considered complete for this reporting period. BTMUA facilitates regional watershed management planning processes.	Complete/ Ongoing
Initiative BK-118—Promote open space or flood-compatible land uses in identified high hazard areas via techniques such as: planned unit development, easements, setbacks, greenways, sensitive area tracts, community education, natural resource inventory; comprehensive planning; zoning provisions; floodplain protection ordinance; and the environmental review process.				
BT Planning	Short Term	No	There are recommendations for such approaches in neighborhood plans, but no notable progress has been made.	No Progress
Initiative BK-119—Provide dredging, levee and bulkhead construction, revetments or channelization where appropriate				
BT Engineering	Ongoing	No	This initiative is redundant with BK-106.	Discontinue
Initiative BK-120—Maintain vegetated riparian buffer zones. Prioritize implementation by using parcels identified as protection priority from the Trust for Public Land.				
BT Planning	Ongoing	No	This initiative is ongoing and is considered complete for this reporting period. An ordinance addressing this issue was adopted in 2007. Most of the areas are under other jurisdictional regulation.	Complete/ Ongoing
Initiative BK-121—Restore upland and riparian forests to capture rainfall, protect soil from erosion, maximize infiltration, and sequester nutrients.				
BT Planning	Long Term (5+yrs.)	No	The Township does not have upland riparian forests.	Discontinue
Initiative BK-122—Construct stormwater wetlands to maximize removal of pollutants from stormwater runoff.				
BT Planning	Short Term (<5yrs.)	No	This initiative is not needed as there are natural stormwater wetlands.	Discontinue
Initiative BK-123—Install a bio retention system in lawns, median strips, parking lot islands, unused lot areas, certain easements, or other areas that would benefit from stormwater mitigation.				
BT Planning	Short Term (<5yrs.)	No	This initiative is redundant with previously identified initiatives assigned to MUA.	Discontinue



Lead Agency	Timeline	Priority Changed?	Comment (Describe progress or changed priority)	Status
Initiative BK-124—Retrofit existing stormwater basins to extend detention or bio retention areas.				
BT Planning	Ongoing	No	This initiative is ongoing, but considered complete for this reporting period. Such retrofits are recommended by Township staff as redevelopment occurs.	Complete/ Ongoing
Initiative BK-125—Remove un-utilized or under-utilized impervious surfaces, such as extra parking, with native or maintained vegetation. Where possible redirect runoff to these new pervious surfaces.				
BT Planning	Ongoing	No	This initiative is ongoing, but considered complete for this reporting period. Township staff suggest such measures as redevelopment occurs. There is no formalized ordinance.	Complete/ Ongoing
Initiative BK-126—Restore fluvial systems and streams to approach pre-development conditions where a sinuous channel is reconnected to an expansive floodplain, ideally integrated with riparian wetlands.				
BT Planning	Short Term (<5yrs.)	No	This initiative is not applicable as most stream systems are already preserved. Those that are not are developed.	Discontinue
Initiative BK-127—Support the use and installation of green energies and sustainable technologies, where appropriate and affordable. Green improvements can include: i.) Green roofs ii.) Bioswales iii.) Planter boxes iv.) Vegetated filter strips v.) Permeable/pervious paving vi.) Rain gardens vii.) Overall increased vegetation viii.) Rain barrels or cisterns ix.) Soil amendment x.) Bulkhead/vertical walls xi.) Vegetated filter strip				
BT Planning	Ongoing	No	Progress on this initiative is achieved in a limited way through the Township's mixed use and street-scaping ordinances. There is a municipally owned solar farm on a landfill and MUA is working on rain barrel and rain garden projects. As redevelopment projects are brought in for review, Township staff suggest such measures as green roofs, rain gardens, permeable and pervious paving, etc. Generally, developers and others seeking permits comply with suggestions.	In Progress
Initiative BK-131—Evaluate and build resiliency for the long-term implications of sea-level rise for water supply operations.				
BTMUA	Short Term (<5yrs.)	No	This initiative was previously part of BK-020. In January, BTMUA awarded a contract for a water supply master plan update. As part of the project, the drinking water intake's vulnerability to sea level rise will be statistically evaluated, including frequency of storm events, monitoring data, long-term trends and projections, and resilience improvements will be developed, if necessary. Also included in the project is an assessment of the Brick Reservoir's normal operating range as it relates to future demand and climate change. The initial draft is expected in fall 2017.	In Progress



Lead Agency	Timeline	Priority Changed?	Comment (Describe progress or changed priority)	Status
Initiative BK-132—Purchase structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority.				
BT Planning	Ongoing	No	This initiative was previously part of BK-027. Acquisition is not currently a priority for the Township.	No Progress



RECOMMENDATIONS FOR CHANGES OR ENHANCEMENTS

Based on the review of this report by the Planning Committee, the following initiatives (Table 3) have been added to the action plan. In addition, the Planning Committee has noted the following recommendations for future updates or revisions to the plan:

- Review, update and rework the Natural and Beneficial Functions elements of the Floodplain Management Plan so that it is creditable under CRS Activity 510.
- Add an observed versus projected sea level rise chart into the climate change discussion.
- Enhance the discussion of economic impacts of sea level rise.
- Contemplate developing post-disaster policies and ordinances.

Table 3. Newly Added Initiatives

Lead Agency	Timeline	Priority	Comment (Describe progress or changed priority)	Status
Initiative BK-037—Record monitoring of flood of events to support safety and potential requests for funding.				
BT Police	Ongoing	High	This is a newly added action	New
Initiative BK-128—Continue tree vegetation maintenance for hazardous tree removal by parks crew.				
BT DPW	Ongoing	High	This is a newly added action	New
Initiative BK-129—Develop and prepare disaster response information packets to distribute post-disaster regarding retro-fit information and funding.				
BT Planning	Short Term (<5yrs.)	High	This is a newly added action	New
Initiative BK-130—Conduct watershed conservation education and outreach.				
BTMUA	Ongoing	High	This is a newly added action	New
Initiative BK-133—Pursue funding to conduct hydrological studies of stormwater system problem areas.				
BT Planning/Engineering	Short Term (<5yrs.)	High	This is a newly added action.	New
Initiative BK-134—Pursue funding for post-disaster recovery plan to outline alternatives for prudent recovery from flood events.				
BT Planning	Short Term (<5yrs.)	High	This is a newly added action.	New
Initiative BK-135—Increase communication and improve coordination with utility providers.				
BT Planning	Short Term (<5yrs.)	High	This is a newly added action.	New
Initiative BK-136 – Develop stormwater education component for educational outreach.				



BT Planning	Short Term (<5yrs.)	High	This is a newly added action.	New
Initiative BK-137—Exercise the Township CRS Activity 610 Plan annually.				
BT OEM	Short Term (<5yrs.)	High	This is a newly added action.	New

Public review notice: The contents of this report are considered to be public knowledge and have been prepared for total public disclosure. Minutes of meetings and sign-ins are provided as Appendix A.

Copies of the report have been provided to the Township Council, the report is posted on the Township of Brick Floodplain Management Plan website and notice of its completion have been provided to local media outlets. Any questions or comments regarding the contents of this report should be directed to:

Michael P. Fowler, AICP/PP

Municipal Planner

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ATTACHMENT

Meeting Documentation

(Sign-in Sheets, Minutes of Meetings)



AGENDA

**Township of Brick Floodplain Management Plan
Floodplain Management Planning Committee
Progress Report Meeting**

Wednesday, July 26, 2017 | 4:00 p.m.

- 1. Introduction**
- 2. Flood Management Plan Purpose/Background**
- 3. Review of Progress Report**
 - a. Flood Event History**
 - b. Change in Risk Exposure**
 - c. Flood Mitigation Success Stories**
 - d. Review of Action Plan and Action Progress**
 - e. Recommended Changes or Enhancements**
- 4. Conclusion**





FLOODPLAIN MANAGEMENT PLANNING COMMITTEE MEETING

SIGN-IN SHEET

Wednesday, July 26, 2017 4:00 PM



Name	Representing	Email Address
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Eliso Commiss	Brick	ecommis@twb.brick.us
Stan Hawles	BBP	shales@ocean.edu



Brick Township Flood Management Planning Committee

Minutes

Brick Township Flood Management Committee Meeting

July 26, 2017

Attendance:

Tara Paxton (Brick co-chair)
Michael P. Fowler (Brick co-chair)
Elissa Commins (Brick)
Joseph Gilsenan (Brick)
Ron Jampel (resident)
Joanne Bergen (Brick)
Dan Newman (Brick)
Thomas Kaczmarek (resident)
Stan Hales (Barnegat Bay Partnership)
Cynthia Addonizio-Bianco (Tetra Tech)

The meeting was called to order by Co-Chairmen Tara Paxton and Michael Fowler at 4:05 PM.

The purpose of the meeting was to review the content of the progress report including the status of the initiatives included in the Action Matrix of the Floodplain Management Plan.

Prior to the meeting in preparation for committee review, the committee co-chairs met with the points of contact for the lead agencies for the initiatives included in the plan to develop a draft progress report for review and input by the committee.

The draft plan was distributed to the committee prior to the meeting to enable members to review the content of the report including:

- a. Flood Event History
- b. Change in Risk Exposure
- c. Flood Mitigation Success Stories
- d. Review of Action Plan and Action Progress
- e. Recommended Changes or Enhancements

The Township took note of requested information/data to finalize the plan including:

- Dates, duration of minor flood events including: When did the flooding occur? Dates and times; how many employees responded; What they did; What equipment they



Brick Township Flood Management Planning Committee

used; Where they responded (got that with the list of streets); How long they were there.

- Total number of structures have been elevated since initial plan development.
- Total number of structures, which were determined to be out of compliance with flood damage.
- Details on upcoming map revisions.
- Stormwater system maintenance: Number of basins cleaned in 2016.
- Number of homes retrofitted and number of homes demolished.
- List of properties the Township has taken ownership of several properties significant for natural floodplain functions through foreclosure and donation.
- Document how the Township coordinates with the Army Corps in general and for Reedy Creek.

This information will be included in the report as appropriate.

The meeting was adjourned at 6:10 PM. The committee will re-convene in August to review and accept the updated draft.



AGENDA

**Township of Brick Floodplain Management Plan
Floodplain Management Planning Committee
Progress Report Meeting**

Monday, August 21, 2017 | 4:00 p.m.

- 1. Welcome**
- 2. Review of Flood Management Plan Action Items**
- 3. Review of Progress Report**
 - a. Flood Event History**
 - b. Change in Risk Exposure**
 - c. Flood Mitigation Success Stories**
 - d. Review of Action Plan and Action Progress**
 - e. Recommended Changes or Enhancements**
- 4. Acceptance of Progress Report with or without edits**
- 5. Next Steps**
- 6. Conclusion**





FLOODPLAIN MANAGEMENT PLANNING COMMITTEE MEETING

SIGN-IN SHEET

Monday, August 21, 2017 4:00 PM



Name	Representing	Email Address
Glenn Campbell	Brick O&W	gcampbell@typ.brick.o&w.us
Joanne Bergin	Brick	jbergin@typ.brick.o&w.us
Jina Paxton	Brick	jpxton@typ.brick.o&w.us
STEVE SOTK	Brick MA	steve@brickma.com
Joseph Grisewald	Brick OEM	J.Grisewald@typ.brick.o&w.us
Michael Fowler	Brick Planning	mfwlwer@typ.brick.o&w.us
TOM KACZMAREK	PUBLIC	TKACZMAREK@AOL.COM
Dan Dawson	Brick GO	dawson@typ.brick.o&w.us
Cynthia Franco	Tetra Tech.	cynthia.franco@tetratech.com



Brick Township Flood Management Planning Committee

Minutes

Brick Township Flood Management Committee Meeting

August 21, 2017

Attendance:

Tara Paxton (Brick co-chair)
Michael P. Fowler (Brick co-chair)
Glenn Campbell (Brick)
Joseph Gilsenan (Brick)
Joanne Bergin (Brick)
Dan Newman (Brick)
Thomas Kaczmarek (resident)
Steve Specht (Brick MUA)
Cynthia Addonizio-Bianco (Tetra Tech)

The meeting was called to order by Co-Chairmen Tara Paxton and Michael Fowler at 4:02 PM.

The purpose of the meeting was to review and accept the content of the progress report prior to submittal to Township of Brick Council for acceptance/adoption.

Prior to the meeting in preparation for committee review, with support from the consultant, the committee co-chairs revised the draft progress report to include the following recommendations for changes or enhancements as well as updating information as noted in the July meeting:

- Review, update and rework the Natural and Beneficial Functions elements of the Floodplain Management Plan so that it is creditable under CRS Activity 510.
- Add an observed versus projected sea level rise chart into the climate change discussion.
- Enhance the discussion of economic impacts of sea level rise.

The draft plan was distributed to the committee prior to the meeting to enable members to review the updated content of the report including:

- Flood Event History
- Change in Risk Exposure



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- Flood Mitigation Success Stories
- Review of Action Plan and Action Progress
- Recommended Changes or Enhancements

The committee agreed to include an additional initiative (Initiative BK-137—Exercise the Township CRS Activity 610 Plan annually.)

The Committee took note of requested information/data outstanding and will endeavor to include in the final report:

- Dates, duration of minor flood events including: When did the flooding occur? Dates and times; how many employees responded; What they did; What equipment they used; Where they responded (got that with the list of streets); How long they were there.
- Total number of structures, which were determined to be out of compliance with flood damage.
- Details on upcoming map revisions.
- Stormwater system maintenance: Number of basins cleaned in 2016.
- Number of homes retrofitted and number of homes demolished since March 2016 and August 2016.
- List of properties the Township has taken ownership of several properties significant for natural floodplain functions through foreclosure.
- Document how the Township coordinates with the Army Corps in general and for Reedy Creek.

The report will be amended to include an appendix including meeting agendas and minutes and will be submitted to the Council for review prior to the end of the CRS Activity 510 reporting period. The Township will provide a press release to the media regarding the submittal of the plan and will make it available to the public on the Township Floodplain Information page.

The meeting was adjourned at 5:00 PM.