



## 9.2 CITY OF BEACON

This section presents the jurisdictional annex for the City of Beacon.

### 9.2.1 Hazard Mitigation Plan Point of Contact

The following individuals have been identified as the hazard mitigation plan’s primary and alternate points of contact.

Primary Point of Contact	Alternate Point of Contact
Tim Dexter, Building Inspector 1 Municipal Plaza, Beacon, NY 12508 845-838-5020 <a href="mailto:tdexter@cityofbeacon.org">tdexter@cityofbeacon.org</a>	Tony Tornaselli, Highway Superintendent 1 Municipal Plaza, Beacon, NY 12508 845-831-0932 <a href="mailto:highway@cityofbeacon.org">highway@cityofbeacon.org</a>

### 9.2.2 Municipal Profile

The City of Beacon is located in the southwestern quadrant of Dutchess County, NY. It is bordered to the west by the Hudson River and on all other sides by the Town of Fishkill. The City is noted for being close to numerous historic sites and other large cities, including Bannerman’s Castle, West Point, the City of Newburgh, and the City of Poughkeepsie. The City has a much denser population than the rest of the County. A little over half the City’s housing units (56.5 percent) are owner-occupied, while the rest (43.5 percent) are renter-occupied. The City is home to a diverse population, with 21.3 percent speaking a language other than English and 7.2 percent speaking English less than well.

The City of Beacon contains several neighborhoods, such as the River Side Section, Mountain Side Section, North Tree Streets, South Tree Streets, the Business District, the Davies, Forrestal Heights, and the Derk. The City’s more vulnerable structures and critical facilities will be discussed in further detail throughout the Hazard Mitigation Plan and this annex. The City comprises a total area of 4.88 square miles, of which, 0.14 square miles is water and 4.74 square miles is land. The City is proximate and vulnerable to flooding from both the Hudson River and Fishkill Creek.

As an urban center, the City features convenient access to the Metro-North rail system and major regional highways and roads, such as Interstate-84, State Route 52, and State Route 9D. The City also has the Newburgh-Beacon Bridge, which residents can use to travel across the Hudson River.

According to the 2010 U.S. Census, the City of Beacon had a population of 15,541.

### Growth/Development Trends

The City of Beacon did not note any completed residential, commercial, or infrastructure development since 2010, or any major residential, commercial, or infrastructure development planned for the next five years in the City of Beacon.

**Table 9.2-1. Growth and Development**

Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Location (address and/or Parcel ID)	Known Hazard Zone(s)	Description/Status of Development
<b>Recent Development from 2010 to present</b>					
Not available					



Property or Development Name	Type (e.g. Res., Comm.)	# of Units / Structures	Location (address and/or Parcel ID)	Known Hazard Zone(s)	Description/Status of Development
<b>Known or Anticipated Development in the Next Five (5) Years</b>					
Not available					

\* Only location-specific hazard zones or vulnerabilities identified.

### 9.2.3 Natural Hazard Event History Specific to the City of Beacon

Dutchess County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5.0 of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities. For the purpose of this plan update, events that have occurred in the County from 2008 to present were summarized to indicate the range and impact of hazard events in the community. Information regarding specific damages is included, if available, based on reference material or local sources. This information is presented in the table below. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

**Table 9.2-2. Hazard Event History**

Dates of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
December 26 – 28, 2010	Snow storm	DR-1957	No	A severe snow storm impacted local roadways and cause power outages throughout the region.
August 26 – September 5, 2011	Hurricane Irene	DR-4020	Yes	A sewer main crossing the Fishkill Creek in the City of Beacon was damaged when a rock or debris impacted the line during Hurricane Irene. Following Hurricane Irene, the City experienced a sanitary sewage overflow into a storm drainage pipe by the train station.
January 3, 2015, to March 20, 2015	Winter 2015 Snow Storms	No	N/A	Contiguous heavy snowfall events threatened motorist safety. The City cleared roads of snow from 30 days of storms.

### 9.2.4 Hazard Vulnerabilities and Ranking

The hazard profiles in Section 5.0 of this plan have detailed information regarding each plan participant’s vulnerability to the identified hazards. The following summarizes the hazard vulnerabilities and their ranking in the City of Beacon. For additional vulnerability information relevant to this jurisdiction, refer to Section 5.0.

#### Hazard Risk/Vulnerability Risk Ranking

The table below summarizes the hazard risk/vulnerability rankings of potential hazards for the City of Beacon.

**Table 9.2-1. Hazard Risk/Vulnerability Risk Ranking**

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard <sup>a, c</sup>	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking <sup>b</sup>
Coastal Storm	100-year MRP: \$1,718,781.00 500-year MRP: 11660170 Annualized: \$139,554.00	Frequent	48	High
Drought	Damage estimate not available	Frequent	42	High





Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard <sup>a, c</sup>	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking <sup>b</sup>
Earthquake	100-Year GBS: \$0 500-Year GBS: \$597,456 2,500-Year GBS: \$10,537,738	Occasional	24	Medium
Extreme Temperature	Damage estimate not available	Frequent	30	Medium
Flood	1% Annual Chance: \$77,420,816	Frequent	36	High
Severe Storm	100-Year MRP: \$1,718,781 500-year MRP: \$11,660,170 Annualized: \$139,554	Frequent	48	High
Winter Storm	1% GBS: \$20,642,327 5% GBS: \$103,211,634	Frequent	51	High
Wildfire	Estimated Value in the WUI: \$2,728,968,652	Frequent	48	High

Notes:

GBS = General building stock; MRP = Mean return period.

- a. The general building stock valuation is based on the custom inventory generated for the municipality and based on improved value.
- b. High = Total hazard priority risk ranking score of 31 and above  
Medium = Total hazard priority risk ranking of 20-30+  
Low = Total hazard risk ranking below 20
- c. Loss estimates for the severe storm and severe winter storm hazards are structural values only and do not include the estimated value of contents. The earthquake and hurricane wind hazards were evaluated by Census tract. The Census tracts do not exactly align with municipal boundaries; therefore, a total is reported for each Town inclusive of the Villages. Loss estimates for the flood and earthquake hazards represent both structure and contents. Potential flood loss estimates were generated using HAZUS-MH 2.2 and the 2011 FEMA DFIRM for the 1-percent annual chance event. For the wildfire hazard, the improved value and estimated contents of buildings located within the identified hazard zones is provided.

### National Flood Insurance Program (NFIP) Summary

The following table summarizes the NFIP statistics for the City of Beacon.

Table 9.2-4. NFIP Summary

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 100-year Boundary (3)
City of Beacon	50	18	\$260,776.32	0	0	11

Source: FEMA Region 2, 2014

- (1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA Region 2, and are current as of 12/31/2014. Please note the total number of repetitive loss properties does not include the severe repetitive loss properties. The number of claims represents claims closed by 12/31/14.
- (2) Total building and content losses from the claims file provided by FEMA Region 2.
- (3) The policies inside and outside of the flood zones is based on the latitude and longitude provided by FEMA Region 2 in the policy file.

Notes: FEMA noted that where there is more than one entry for a property, there may be more than one policy in force or more than one GIS possibility.  
A zero percentage denotes less than 1/100th percentage and not zero damages or vulnerability as may be the case.  
Number of policies and claims and claims total exclude properties located outside County boundary, based on provided latitude and longitude

### Critical Facilities

The table below presents HAZUS-MH estimates of the damage and loss of use to critical facilities in the community as a result of a 1- and 0.2-percent annual chance flood events.



**Table 9.2-5. Potential Flood Losses to Critical Facilities**

Name	Type	Exposure		Potential Loss from 1% Flood Event		
		1% Event	0.2% Event	Percent Structure Damage	Percent Content Damage	Days to 100-Percent <sup>(1)</sup>
None						

Source: Dutchess County, NYGIS

Note (1): HAZUS-MH 2.2 provides a general indication of the maximum restoration time for 100% operations. Clearly, a great deal of effort is needed to quickly restore essential facilities to full functionality; therefore this will be an indication of the maximum downtime (HAZUS-MH 2.1 User Manual).

Note (2): In some cases, a facility may be located in the DFIRM flood hazard boundary; however HAZUS did not calculate potential loss. This may be because the depth of flooding does not amount to any damages to the structure according to the depth damage function used in HAZUS for that facility type. Further, HAZUS-MH may estimate potential damage to a facility that is outside the DFIRM because the model generated a depth grid beyond the DFIRM boundaries.

X Facility located within the DFIRM boundary

- Not calculated by HAZUS-MH 2.2

### Other Vulnerabilities Identified

The City of Beacon has identified the following vulnerabilities within their community:

- The City of Beacon is vulnerable to high river stages from the Hudson River (FEMA FIS).
- The City of Beacon is a major metropolitan area in the County and region, with 21.3 percent of its population speaking a language other than English and 7.2 percent speaking English “less than well.” These populations are considered vulnerable during times of disaster.
- The City of Beacon Fire Department noted that its essential critical facilities are not sufficiently disaster-resistant. Two out of three fire stations do not have operating backup generators, and leaks in the basements. None of the facilities meet ADA requirements. In particular, snow storms and electrical power outages have impacted the Fire Department’s ability to provide service.
- The City of Beacon Fire Department noted that not all small bridges in the City are properly designed to withstand closures and/or damage due to natural hazards.
- During heavy rainfall events or significant snow melt, residential properties downstream of the Hiddenbrook property experience destructive and potentially dangerous flooding. This is largely caused by stream channel erosion which allows for the overtopping of streams during these events. This problem has existed for at least 25 years. Driveways, yards, and public have been undermined and there has been significant flooding in homes. Since the private property damages have been submitted under homeowners' insurance coverage the City does not have an average annual cost estimate. The City's costs lie in overtime for public safety and public works personnel and vary greatly from storm to storm. Our greatest cost in recent years was related to Hurricane Irene which cost the City thousands of dollars.
- During heavy rainfall events or significant snow melt, residential properties and public roads around and downstream of Jessen's Pond experience destructive flooding. This is largely caused by the build-up of sedimentation in the pond which reduces the storage capacity and affects the ability of the poor condition outlet structure for the pond to drain properly. This situation has existed since the late 1960's in varying degrees.
- Stormwater runoff from the center of Beacon and the nearby Department of Correction's prison property all runs into one area on Tioronda Avenue, through the Teller Woods and private property owned by



the Miller family. This problem has existed for several years because all of the stormwater collects and runs into an undersized 36-inch pipe causing flooding on Tioronda Avenue, Creek Road, nearby private residences, commercial businesses, and our own Public Works facility. This causes overtime for our Department of Public Works crew every time there is a significant rainfall or snow melt. The cost varies depending upon the date, amount of rainfall, or number of occurrences during the year. This has undermined the railroad tracks (MTA) and has washed out Creek Road, the entrance to our Public Works facility.

- Severe flooding occurs on South Walnut Street due to undersized piping and lack of drainage structures. This situation has existed for at least 60 years, causing flooding in the public streets and to local residents. Costs include overtime for Public Works crews during heavy rain events or storm melts, which varies based on the number of occurrences during the year.
- Erosion from the Hudson River of Riverfront Park, and flooding the Metro North Railroad Station and Red Flynn Drive. Commuter parking lots are flooding and over the years have caused vehicles to float out of the lots. This situation has existed ever since the park was constructed over 30 years ago whenever there is major flooding, particularly during high tides. Metro North has had to clear the station and several vehicles have been damaged. Damage occurs to the park from erosion around the shoreline.

### 9.2.5 Capability Assessment

This section identifies the following capabilities of the local jurisdiction:

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Community classification
- National Flood Insurance Program
- Integration of Mitigation Planning into Existing and Future Planning Mechanisms

#### Planning and Regulatory Capability

The table below summarizes the regulatory tools that are available to the City of Beacon.

**Table 9.2-6. Planning and Regulatory Tools**

Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
<b>Planning Capability</b>				
Master Plan	Yes, 12/17/2007	Local	City Council, Planning Board	Comprehensive Plan and Draft Generic Environmental Impact Statement
Capital Improvements Plan	Yes, 7/25/2014	Local	-	-
Floodplain Management / Basin Plan	No	-	-	-
Stormwater Management Plan	No	-	-	-



Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Open Space Plan	Yes	-	Planning Board	Comprehensive Plan and Draft Generic Environmental Impact Statement
Stream Corridor Management Plan	No	-	-	-
Watershed Management or Protection Plan	Yes, May 2005	County	Fishkill Creek Watershed Committee	Natural Resources Management Plan For The Fishkill Creek Watershed
Economic Development Plan	No	-	-	-
Comprehensive Emergency Management Plan	Yes, Update semi-annually	Local	Chief of Police, Emergency Management Plan Committee	Chapter 23: Emergency Management Committee (23.5: Emergency Management Plan)
Emergency Response Plan	Yes	School Districts, Local	-	Building Level EMPs
Post-Disaster Recovery Plan	No	-	-	-
Transportation Plan	No	-	-	-
Strategic Recovery Planning Report	No	-	-	-
Other Plans:	No	-	-	-
<b>Regulatory Capability</b>				
Building Code	Yes, 2/20/2007	Local	Building Department and Code Enforcement	Ch. 119:Uniform Fire Prevention and Building Code
Zoning Ordinance	Yes, 3/21/1977	Local	Planning Board	Ch. 223: Zoning
Subdivision Ordinance	Yes, 5/3/2004	Local	Planning Board	Ch. 195: Subdivision of Land
NFIP Flood Damage Prevention Ordinance	Yes, 7/2012	Local	City Council, FPA	Ch. 123: Flood Damage Prevention
NFIP: Cumulative Substantial Damages	No	-	-	-
NFIP: Freeboard	No	-	-	-
Growth Management Ordinances	No	-	-	-
Site Plan Review Requirements	Yes, 2/19/2013	Local	Planning Board	Ch. 223: Zoning – Site plan review is required of all development in Central Main Street District
Stormwater Management Ordinance	Yes, 11/19/2007	Local	City Council, City of Beacon Stormwater Management Officer	Ch 190: Stormwater Management and Erosion and Sediment Control



Tool / Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept. /Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
Municipal Separate Storm Sewer System (MS4)	Yes, 11/19/2007	Local	Highway Department	Ch. 189: Storm Sewers
Natural Hazard Ordinance	No	-	-	-
Post-Disaster Recovery Ordinance	No	-	-	-
Real Estate Disclosure Requirement	No	-	-	-
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	No	-	-	-

### Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the City of Beacon.

**Table 9.2-7. Administrative and Technical Capabilities**

Resources	Is this in place? (Yes or No)	Department/ Agency/Position
<b>Administrative Capability</b>		
Planning Board	Yes	Planning Board
Mitigation Planning Committee	No	-
Environmental Board/Commission	Yes	Conservation Advisory Committee
Open Space Board/Committee	Yes	Conservation Advisory Committee/ Planning Board
Economic Development Commission/Committee	No	-
Maintenance Programs to Reduce Risk	Yes	Disaster Preparedness Committee within Beacon Fire Department
Mutual Aid Agreements	Yes	Fire Department
<b>Technical/Staffing Capability</b>		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Code Enforcement, Planning Board
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Building Inspector
Planners or engineers with an understanding of natural hazards	No	
NFIP Floodplain Administrator	Yes	Building Inspector
Surveyor(s)	No	
Personnel skilled or trained in GIS and/or HAZUS-MH applications	No	
Scientist familiar with natural hazards	No	
Emergency Manager	Yes	Police Chief, Fire Department
Grant Writer(s)	No	
Staff with expertise or training in benefit/cost analysis	No	
Professionals trained in conducting damage assessments	No	



### Fiscal Capability

The table below summarizes financial resources available to the City of Beacon.

**Table 9.2-8. Fiscal Capabilities**

Financial Resources	Accessible or Eligible to Use (Yes/No)
Community development Block Grants (CDBG, CDBG-DR)	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for specific purposes	Yes
User fees for water, sewer, gas or electric service	
Impact Fees for homebuyers or developers of new development/homes	Subdivision Application Fee, Special Use Permit Fee, Building Permit Fee, Recreation fee for subdivisions and site plans
Stormwater Utility Fee	Sewer rent fee of 40% of the charge now made or hereafter made for the water supplied to any such real property.
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other Federal or State Funding Programs	No
Open Space Acquisition Funding Programs	No
Other	No

### Community Classifications

The table below summarizes classifications for community program available to the City of Beacon.

**Table 9.2-9. Community Classifications**

Program	Do you have this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	No	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Disaster/Safety Programs in/for Schools	No	N/A	N/A
Organizations with Mitigation Focus (advocacy group, non-government)	No	N/A	N/A
Public Education Program/Outreach (through website, social media)	No	N/A	N/A
Public-Private Partnerships	No	N/A	N/A

N/A = Not applicable. NP = Not participating. - = Unavailable. TBD = To be determined.

The classifications listed above relate to the community’s ability to provide effective services to lessen its vulnerability to the hazards identified. These classifications can be viewed as a gauge of the community’s capabilities in all phases of emergency management (preparedness, response, recovery and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The CRS class applies





to flood insurance while the BCEGS and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10 with class 1 being the best possible classification, and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1000 feet of a creditable fire hydrant and is within 5 road miles of a recognized Fire Station.

Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The ISO Mitigation online ISO's Public Protection website at <http://www.isomitigation.com/ppc/0000/ppc0001.html>
- The National Weather Service Storm Ready website at <http://www.weather.gov/stormready/howto.htm>
- The National Firewise Communities website at <http://firewise.org/>

## National Flood Insurance Program

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### NFIP Floodplain Administrator (FPA)

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Tim Dexter, Building Inspector

### Flood Vulnerability Summary

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The NFIP FPA stated that the City has had no major instances of flooding or issues with flooding. However, as previously stated above, during heavy rainfall events or significant snow melt, residential properties downstream of the Hiddenbrook property experience destructive and potentially dangerous flooding. This is largely caused by stream channel erosion which allows for the overtopping of streams during these events. This problem has existed for at least 25 years. Driveways, yards, and public have been undermined and there has been significant flooding in homes. Since the private property damages have been submitted under homeowners' insurance coverage the City does not have an average annual cost estimate.

### Resources

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The Water and Sewer Department provides City of Beacon residents with safe, potable water for fire protection and use. Ongoing maintenance and analysis includes keeping the pipelines and manholes clean, conducting infiltration and inflow studies, and making alterations to ease the burden of high flows during heavy rain periods.

### Compliance History

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As of January 31, 2015 there are 56 policies in force, insuring \$14.263 million of property with total annual insurance premiums of \$48,539.

Since 1978, 18 claims have been paid totaling \$260,776.

### Regulatory

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The City's Flood Damage Prevention Ordinance (FDPO) was last reviewed and updated in April 2012 and is found in Chapter 123 of the local code. Floodplain management regulations and ordinances meet the FEMA and New York State minimum requirements.



## Community Rating System

The City of Beacon does not participate in the Community Rating System (CRS) program.

## Other Capabilities Identified

All of the City's on-going programs and capabilities are documented in the sections above. The City had not previously identified any mitigation actions.

## Integration of Hazard Mitigation into Existing and Future Planning Mechanisms

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, each community was surveyed to obtain a better understanding of their community's progress in plan integration. A summary is provided below. In addition, the community identified specific integration activities that will be incorporated into municipal procedures.

## Planning

**Land Use Planning:** The City has a Planning Board and Zoning Board of Appeals which review all applications for development and consider natural hazard risk areas in their review. Many development activities require additional levels of environmental review, specifically NYS SEQRA and Federal NEPA requirements.

**City of Beacon Comprehensive Plan/ GEI 2007:** The City completed a Comprehensive Plan, which included the identification of natural hazard risk areas like floodplains, wetlands, and steep slopes, as well as land use and zoning recommendations for managing those risks. It also includes the identification of the manmade hazard risks associated with the Indian Creek Power Plant. Some of the mitigation specific recommendations included the following:

1. Review and revise City regulations protecting steep slopes, wetlands and other significant environmental features
2. City Code should reflect a standard that new development of impervious surfaces should set back by a 100-foot buffer from all wetlands and watercourses, except for cases of undue hardship or practical difficulty, and with special consideration for properties in the CB District, the Waterfront Development area and existing developed sites where redevelopment is deemed positive and/or necessary or where such redevelopment may be expected to reduce adverse environmental impacts or result in no significant net increase in adverse environmental impacts. The use of permeable pavements or other innovative stormwater management techniques would be expected to mitigate potential impacts of development within the buffer where allowed by the above exceptions.
3. City Code (Section 223-16) should regulate development in areas with steep slopes between 15 and 25 percent, and further restrict development in areas with slopes greater than 25 percent. In the intermediate steep zone of 15 to 25 percent, regulations should include consideration of soil types, vegetation and terrain in guiding development to minimize impacts, particularly erosion. Steep slope regulations should be more restrictive in areas of lower density and less restrictive in areas of greater density as depicted on the Land Use Plan Map
4. Adopt regulations to minimize impervious surfaces in street and parking lot design and incorporate these standards into municipal building construction and renovation.
5. Work with local legislators and representatives to monitor and ensure that the Indian Point Power Plant and all local power plants are in full compliance with all standards and requirements; and demand that power plants be operated in a safe manner for the protection of the environment and all life forms.



## Regulatory and Enforcement

**Flood Damage Prevention Chapter 123:** It is the purpose of this chapter to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- A. Regulate uses which are dangerous to health, safety and property due to water or erosion hazards or which result in damaging increases in erosion or in flood heights or velocities;
- B. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- C. Control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of floodwaters;
- D. Control filling, grading, dredging and other development which may increase erosion or flood damages;
- E. Regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands; and
- F. Qualify for and maintain participation in the National Flood Insurance Program.

**Zoning Code Chapter 223:** The City of Beacon's zoning code includes districts and standards pertaining to the mitigation of hazards. These sections include the Wetlands and watercourse; hilltops, ridgelines and steep slopes section and the Flood-prone areas section. The zoning code also includes standards for erosion and sediment control, wetland and watercourse protection, and steep slope regulations.

**Site Plan/Subdivision Review:** The City's Planning Board is tasked with site plan/subdivision review. The Planning board pays special attention to ensure that developments mitigate the issues associated with flooding or steep slopes.

**Building Code Chapter 119:** The building codes are strictly enforced to make new and renovated buildings as prepared as possible for hazard related incidents. The chapter includes a provision to allow the building inspector to make emergency repairs to protect the health safety and welfare of the residents.

**MS4:** the City of Beacon is a MS4 regulated community with a stormwater management plan.

## Fiscal

**Operating Budget:** The City's operating budget contains minimal provisions for expected repairs like snow removal and infrastructure repair after a storm or natural disaster.

**Community Development Block Grant:** Rombout Ave. Road Reconstruction -Funding Award: \$158,655  
Project description: Reconstruction of 853 feet of Rombout Avenue between Teller Avenue and South Chestnut Street. Project includes surveying and engineering, new sanitary sewer lines and new storm drainage.

## Education and Outreach

The City has an email subscription service that can be used to inform residents of the City. The City has a link to the County's info access website which is an online mapper that shows the location of emergency services and critical facilities. The Planning Department is a member of the Dutchess County Planning Federation and attends trainings and researches best practices that other communities are implementing. DPW takes classes in and implements hazardous reduction techniques in various capital improvements.

The City has an Emergency Management Plan Committee that is responsible for communicating with the community during disasters.



### 9.2.6 Mitigation Strategy and Prioritization

This section discusses past mitigations actions and status, describes proposed hazard mitigation initiatives, and prioritization.

#### Past Mitigation Initiative Status

The City of Beacon has no prior mitigation strategy.

#### Completed Mitigation Initiatives not Identified in the Previous Mitigation Strategy

The City of Beacon has identified the following as mitigation projects/activities that have been completed, are planned, or on-going within the municipality:

- Community Development Block Grant Program-Recovery stimulus funds were used to complete the Ralph Street and Mackin Avenue Drainage project in the City of Beacon.
- Work will begin in late June or early July 2015 for reconstruction of Rombout Avenue (Teller Avenue to South Avenue). This work includes new sewer lines, new storm drainage lines and structures, installation of new sidewalks and installation of new road sub-base and pavement.
- The City completed installation or repair of a backup power generator at the City of Beacon Fire Department Headquarters.

#### Proposed Hazard Mitigation Initiatives for the Plan Update

The City of Beacon participated in a mitigation action workshop in March 2015 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 ‘Selecting Appropriate Mitigation Measures for Floodprone Structures’ (March 2007) and FEMA ‘Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards’ (January 2013). In May 2015, the City of Beacon participated in a second workshop and was provided the results to the risk assessment to further assist with the identification of mitigation actions.

Table 9.2-11 summarizes the comprehensive-range of specific mitigation initiatives the City of Beacon would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as ‘High’, ‘Medium’, or ‘Low.’ The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.2-12 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.2-12. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority**	Mitigation Category	CRS Category
Bea - 1	Complete needed infrastructure upgrades, including: -Newburgh-Beacon Bridge -other small bridges with known vulnerabilities within the City	Existing	Severe Storm, Severe Winter Storm, Flooding, Earthquake	1, 2	City DOT, NYSDOT	High	High	Capital Improvements	Long Term	TBD	SIP	PP
Bea - 2	Distribute outreach materials in multiple languages that educate the public disaster preparedness and risk reduction. Distribute the literature to all public buildings, local government facilities, public-meeting places, and civic organizations, etc. Information can also be posted on the City web site. The materials will emphasize the need for individual as well as family plans for all types of emergencies.	N/A	All hazards	3	Emergency Management Plan Committee	Low	Low	Operating budget, grants	Short Term	TBD	EAP	PI
Bea - 3	Promote Disaster-Resistant Development: Maintain good standing in the National Flood Insurance Program	Both	Flooding	2, 3	NFIP FPA, Building Inspector	Low	Low	Operating budget	OG	TBD	EAP	PR
Bea - 4	Ensure that future comprehensive plan updates incorporate natural disaster mitigation techniques by inviting local and County Emergency Management personnel to participate in planning process.	N/A	All hazards	5, 7	City Council, Planning Board	Low	Low	Operating budget	OG	TBD	LPR	ES
Bea - 5	Educate residents about driving in winter storms and handling winter-related health effects	N/A	Winter Storm	3	Highway Department, Building Department	Low	Low	Operating budget	Short Term	TBD	EAP	PI
Bea - 6	Review existing emergency response plans for enhancement opportunities: work with social support	N/A	All hazards	5	Emergency Management Plan Committee	Low	Low	Operating budget, grants	Short Term	TBD	LPR	ES



**Table 9.2-12. Proposed Hazard Mitigation Initiatives**

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority**	Mitigation Category	CRS Category
	agencies, homeowners' associations, and general public to develop and implement monitoring and warning systems focused on vulnerable populations and provision of adequate shelter facilities.											
Bea - 7	Install (or return to functionality) backup generator at City of Beacon Fire Department Station No. 1.	Existing	All hazards	2, 5	City of Beacon Fire Department	High	Medium	Grants	DOF	TBD	SIP	ES
Bea - 8	Improve City of Beacon Fire Department facilities, including sealing basements from water damage, and upgrading facilities to meet ADA requirements.	Existing	All hazards	2, 5	City of Beacon Fire Department	High	Medium	Grants	DOF	TBD	SIP	ES
Bea - 9	Hiddenbrooke: The proposed project will involve the cleaning, widening, and realignment of streams running through the Hiddenbrooke property.											
	See Above	N/A	Flood	4, 6	Highway Department	Medium	Medium	HMGP	DOF	TBD	SIP	PP, NR
Bea - 10	Jessen's Pond: Jessen's Pond would be dredged of all sediment to increase storage capacity of the pond, and a new outlet control structure would be installed to maintain levels within the pond to ensure capacity exists during heavy rainfall events. Costs would include engineering, surveying, contaminated soils, testing, permitting, etc.											
	See Above	N/A	Flood	2, 4	Highway Department	High	Medium	HMGP	DOF	Medium	SIP	PP, NR
Bea - 11	Tioronda Drainage Improvements: Removal of the 36-inch stormwater drainage system, and installation of a new 60-inch drainage system to increase the capacity of the piped network. Costs include surveying, engineering, design and construction.											
	See Above	N/A	Flood	2, 4	Highway Department	High	Medium	HMGP	DOF	TBD	SIP	PP, NR
Bea - 12	South Walnut Street Drainage: Existing piping will be replaced with a larger system and additional drainage structures. Costs will include surveying, engineering, design and construction.											
	See Above	N/A	Flood	2, 4	Highway Department	High	Medium	HMGP	DOF	TBD	SIP	PP, NR
Bea - 13	Riverfront Park: Mitigation includes the installation of a sea wall (concrete and/or large concrete block) around the park, and leading to the ferry dock, approximately 2,350 linear feet. Costs include engineering, permitting and construction.											
	See Above	N/A	Severe Storm, Severe Winter Storm, Flooding, Earthquake	2, 4	City Council, Planning Board	High	High	HMGP	DOF	TBD	SIP	PP

Notes:





Not all acronyms and abbreviations defined below are included in the table.

\*Does this mitigation initiative reduce the effects of hazards on new and/or existing buildings and/or infrastructure? Not applicable (N/A) is inserted if this does not apply.

\*\*As the date of this plan, the City has prioritized the proposed actions

Acronyms and Abbreviations:

CAV	Community Assistance Visit
CRS	Community Rating System
DPW	Department of Public Works
FEMA	Federal Emergency Management Agency
FPA	Floodplain Administrator
HMA	Hazard Mitigation Assistance
N/A	Not applicable
NFIP	National Flood Insurance Program
OEM	Office of Emergency Management

Potential FEMA HMA Funding Sources:

FMA	Flood Mitigation Assistance Grant Program
HMGP	Hazard Mitigation Grant Program
PDM	Pre-Disaster Mitigation Grant Program
RFC	Repetitive Flood Claims Grant Program (discontinued)
SRL	Severe Repetitive Loss Grant Program (discontinued)

Timeline:

Short	1 to 5 years
Long Term	5 years or greater
OG	On-going program
DOF	Depending on funding

Costs:

Where actual project costs have been reasonably estimated:

Low	< \$10,000
Medium	\$10,000 to \$100,000
High	> \$100,000

Where actual project costs cannot reasonably be established at this time:

Low	Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.
Medium	Could budget for under existing work plan, but would require a reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
High	Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.

Benefits:

Where possible, an estimate of project benefits (per FEMA's benefit calculation methodology) has been evaluated against the project costs, and is presented as:

Low=	< \$10,000
Medium	\$10,000 to \$100,000
High	> \$100,000

Where numerical project benefits cannot reasonably be established at this time:

Low	Long-term benefits of the project are difficult to quantify in the short term.
Medium	Project will have a long-term impact on the reduction of risk exposure to life and property, or project will provide an immediate reduction in the risk exposure to property.
High	Project will have an immediate impact on the reduction of risk exposure to life and property.

Mitigation Category:

- Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- Structure and Infrastructure Project (SIP)- These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.
- Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.
- Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

CRS Category:

- Preventative Measures (PR) - Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.





- *Property Protection (PP) - These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.*
- *Public Information (PI) - Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.*
- *Natural Resource Protection (NR) - Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.*
- *Structural Flood Control Projects (SP) - Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.*
- *Emergency Services (ES) - Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities*



Table 9.2-13. Summary of Prioritization of Actions

Mitigation Action/Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low*
Bea - 1	Complete needed infrastructure upgrades, including: -Newburgh-Beacon Bridge -other small bridges with known vulnerabilities within the City																TBD
Bea - 2	Distribute outreach materials in multiple languages that educate the public disaster preparedness and risk reduction. Distribute the literature to all public buildings, local government facilities, public-meeting places, and civic organizations, etc. Information can also be posted on the City web site. The materials will emphasize the need for individual as well as family plans for all types of emergencies.																TBD
Bea - 3	Promote Disaster-Resistant Development: Maintain good standing in the National Flood Insurance Program																TBD
Bea - 4	Ensure that future comprehensive plan updates incorporate natural disaster mitigation techniques by inviting local and County Emergency Management personnel to participate in planning process.																TBD
Bea - 5	Educate residents about driving in winter storms and handling winter-related health effects																TBD
Bea - 6	Review existing emergency response plans for enhancement opportunities: work with social support agencies, homeowners' associations, and general public to develop and implement monitoring and warning systems focused on vulnerable populations and provision of adequate shelter facilities.																TBD
Bea - 7	Install (or return to functionality) backup generator at City of Beacon Fire Department Station No. 1.																TBD
Bea - 8	Improve City of Beacon Fire Department facilities, including sealing basements from water damage, and upgrading facilities to meet ADA requirements.																TBD
Bea - 9	Hiddenbrooke: The proposed project will involve the cleaning, widening, and realignment of streams running through the Hiddenbrooke property.																TBD
Bea - 10	Jessen's Pond: Jessen's Pond would be dredged of all sediment to increase storage capacity of the pond, and a new outlet control structure would be installed to maintain levels within the pond to ensure capacity exists during heavy rainfall events. Costs would	1	1	1	1	0	-1	-1	0	0	1	0	0	1	0	4	Medium



Table 9.2-13. Summary of Prioritization of Actions

Mitigation Action/Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High / Medium / Low*
	include engineering, surveying, contaminated soils, testing, permitting, etc.																
Bea - 11	Tioronda Drainage Improvements: Removal of the 36-inch stormwater drainage system, and installation of a new 60-inch drainage system to increase the capacity of the piped network. Costs include surveying, engineering, design and construction.																TBD
Bea - 12	South Walnut Street Drainage: Existing piping will be replaced with a larger system and additional drainage structures. Costs will include surveying, engineering, design and construction.																TBD
Bea - 13	Riverfront Park: Mitigation includes the installation of a sea wall (concrete and/or large concrete block) around the park, and leading to the ferry dock, approximately 2,350 linear feet. Costs include engineering, permitting and construction.																TBD

Note: Refer to Section 6 which contains the guidance on conducting the prioritization of mitigation actions.

\*As the date of this plan, the City has prioritized the proposed actions



### **9.2.7 Future Needs To Better Understand Risk/Vulnerability**

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None at this time.

### **9.2.8 Hazard Area Extent and Location**

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Hazard area extent and location maps have been generated for the City of Beacon that illustrate the probable areas impacted within the City of Beacon. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the City of Beacon has significant exposure. These maps are illustrated in the hazard profiles within Section 5.4, Volume I of this Plan.

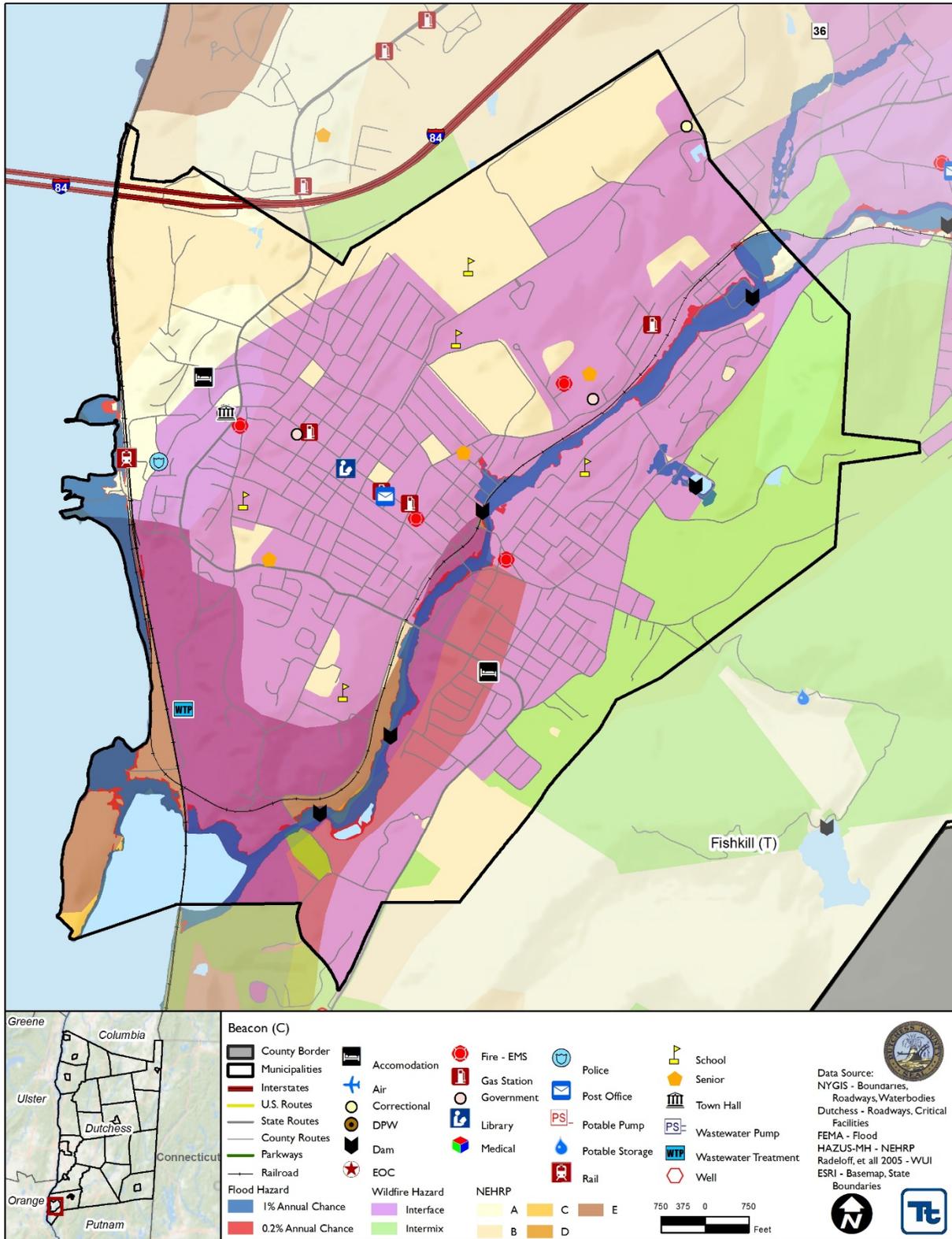
### **9.2.9 Additional Comments**

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None at this time.



Figure 9.2-1. City of Beacon Hazard Area Extent and Location Map 1





Action Number: Bea-10

Mitigation Action Name: Jessen's Pond

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Flooding
<b>Specific problem being mitigated:</b>	During heavy rainfall events or significant snow melt, residential properties and public roads around and downstream experience destructive flooding. This is largely caused by the build-up of sedimentation in the pond which reduces the storage capacity and affects the ability of the poor condition outlet structure for the pond to drain properly. This situation has existed since the late 1960's in varying degrees.
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	<ol style="list-style-type: none"> <li>1. Dredge Jessen's Pond</li> <li>2. Do nothing – current problem continues</li> <li>3. No other feasible options were identified</li> </ol>
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Jessen's Pond would be dredged of all sediment to increase storage capacity of the pond, and a new outlet control structure would be installed to maintain levels within the pond to ensure capacity exists during heavy rainfall events. Costs would include engineering, surveying, contaminated soils, testing, permitting, etc.
<b>Mitigation Action Type</b>	SIP
<b>Goals Met</b>	2,4
<b>Applies to existing and or new development, or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	Protection of private houses and public infrastructure
<b>Estimated Cost</b>	>100,000
<b>Priority*</b>	Medium
Plan for Implementation	
<b>Responsible Organization</b>	Engineering Dept.
<b>Local Planning Mechanism</b>	Capital Improvement
<b>Potential Funding Sources</b>	Grants- Bonding
<b>Timeline for Completion</b>	Depending on funding
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:



Action Number: Bea-10  
 Mitigation Action Name: Jessen's Pond

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	Occupied housing in path of flood waters, and roadways will be compromised
Property Protection	1	Protects private residences and public transportation infrastructure
Cost-Effectiveness	1	Due to repetitive losses
Technical	1	Project has been scoped- no known technical hurdles
Political	0	
Legal	-1	Pond is privately owned.
Fiscal	-1	City would need grant or bond funding to complete project.
Environmental	0	
Social	0	
Administrative	1	City engineering department is capable of project management and administration.
Multi-Hazard	0	Flood only
Timeline	0	Depending on funding
Agency Champion	1	Mayor has voiced strong support
Other Community Objectives	0	
<b>Total</b>	4	
<b>Priority (Tier I, II or III)</b>	Medium	



Action Number: Bea - 1

Action Name: Bridge Upgrade

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Severe Storm, Severe Winter Storm, Flooding, Earthquake
<b>Specific problem being mitigated:</b>	Bridges in the City are in need of upgrades
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	Complete needed infrastructure upgrades, including:
	1. -Newburgh-Beacon Bridge -other small bridges with known vulnerabilities within the City
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Complete needed infrastructure upgrades, including: -Newburgh-Beacon Bridge -other small bridges with known vulnerabilities within the City
<b>Mitigation Action/Project Type</b>	SIP
<b>Goals Met</b>	1, 2
<b>Applies to existing structures/infrastructure, future, or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	High
<b>Priority*</b>	TBD
Plan for Implementation	
<b>Responsible Organization</b>	City DOT, NYSDOT
<b>Local Planning Mechanism</b>	Capital Improvement
<b>Potential Funding Sources</b>	Capital Improvements
<b>Timeline for Completion</b>	Long Term
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:

\* Refer to results of Prioritization (see next page)



Action Number: Bea - 1

Action Name: Bridge Upgrade

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety		
Property Protection		
Cost-Effectiveness		
Technical		
Political		
Legal		
Fiscal		
Environmental		
Social		
Administrative		
Multi-Hazard		
Timeline		
Agency Champion		
Other Community Objectives		
<b>Total</b>		
<b>Priority (High/Med/Low)</b>	TBD	



**Action Number:** Bea - 7  
**Action Name:** Backup Generator for Fire Department

Assessing the Risk	
<b>Hazard(s) addressed:</b>	All hazards
<b>Specific problem being mitigated:</b>	During power outages, the fire department cannot function properly
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	1. Install (or return to functionality) backup generator at City of Beacon Fire Department Station No. 1.
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Install (or return to functionality) backup generator at City of Beacon Fire Department Station No. 1.
<b>Mitigation Action/Project Type</b>	SIP
<b>Goals Met</b>	2, 5
<b>Applies to existing structures/infrastructure, future, or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	Medium
<b>Priority*</b>	TBD
Plan for Implementation	
<b>Responsible Organization</b>	City of Beacon Fire Department
<b>Local Planning Mechanism</b>	Capital Improvement, Emergency Management
<b>Potential Funding Sources</b>	Grants
<b>Timeline for Completion</b>	DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:

\* Refer to results of Prioritization (see next page)



**Action Number:** Bea - 7  
**Action Name:** Backup Generator for Fire Department

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety		
Property Protection		
Cost-Effectiveness		
Technical		
Political		
Legal		
Fiscal		
Environmental		
Social		
Administrative		
Multi-Hazard		
Timeline		
Agency Champion		
Other Community Objectives		
<b>Total</b>		
<b>Priority (High/Med/Low)</b>	TBD	



**Action Number:** Bea - 8  
**Action Name:** Upgrade of City fire department facilities

Assessing the Risk	
<b>Hazard(s) addressed:</b>	All hazards
<b>Specific problem being mitigated:</b>	The City's fire facilities are prone to flood damages and do not meet ADA requirements
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	Improve City of Beacon Fire Department facilities, including sealing 1. basements from water damage, and upgrading facilities to meet ADA requirements. 2. Do nothing – current problem continues 3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Improve City of Beacon Fire Department facilities, including sealing basements from water damage, and upgrading facilities to meet ADA requirements.
<b>Mitigation Action/Project Type</b>	SIP
<b>Goals Met</b>	2, 5
<b>Applies to existing structures/infrastructure, future, or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	Medium
<b>Priority*</b>	TBD
Plan for Implementation	
<b>Responsible Organization</b>	City of Beacon Fire Department
<b>Local Planning Mechanism</b>	Capital Improvement, Emergency Management
<b>Potential Funding Sources</b>	Grants
<b>Timeline for Completion</b>	DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:

\* Refer to results of Prioritization (see next page)



**Action Number:** Bea - 8  
**Action Name:** Upgrade of City fire department facilities

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety		
Property Protection		
Cost-Effectiveness		
Technical		
Political		
Legal		
Fiscal		
Environmental		
Social		
Administrative		
Multi-Hazard		
Timeline		
Agency Champion		
Other Community Objectives		
<b>Total</b>		
<b>Priority (High/Med/Low)</b>	TBD	



**Action Number:** Bea - 9  
**Action Name:** Hiddenbrooke

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Flood
<b>Specific problem being mitigated:</b>	The streams running through Hiddenbrooke property tend to overflow their banks and flood the surrounding areas.
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	<ol style="list-style-type: none"> <li>1. The proposed project will involve the cleaning, widening, and realignment of streams running through the Hiddenbrooke property.</li> <li>2. Do nothing – current problem continues</li> <li>3. No other feasible options were identified</li> </ol>
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	The proposed project will involve the cleaning, widening, and realignment of streams running through the Hiddenbrooke property.
<b>Mitigation Action/Project Type</b>	SIP
<b>Goals Met</b>	4, 6
<b>Applies to existing structures/infrastructure, future, or not applicable</b>	N/A
<b>Benefits (losses avoided)</b>	Medium
<b>Estimated Cost</b>	Medium
<b>Priority*</b>	TBD
Plan for Implementation	
<b>Responsible Organization</b>	Highway Department
<b>Local Planning Mechanism</b>	Capital Improvement, Stormwater Management
<b>Potential Funding Sources</b>	HMGP
<b>Timeline for Completion</b>	DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:

\* Refer to results of Prioritization (see next page)



**Action Number:** Bea - 9  
**Action Name:** Hiddenbrooke

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety		
Property Protection		
Cost-Effectiveness		
Technical		
Political		
Legal		
Fiscal		
Environmental		
Social		
Administrative		
Multi-Hazard		
Timeline		
Agency Champion		
Other Community Objectives		
<b>Total</b>		
<b>Priority (High/Med/Low)</b>	TBD	



**Action Number:** Bea - 11  
**Action Name:** Tioronda Drainage Improvements

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Flood
<b>Specific problem being mitigated:</b>	Drainage system is undersized
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	1. Removal of the 36-inch stormwater drainage system, and installation of a new 60-inch drainage system to increase the capacity of the piped network. Costs include surveying, engineering, design and construction. 2. Do nothing – current problem continues 3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Removal of the 36-inch stormwater drainage system, and installation of a new 60-inch drainage system to increase the capacity of the piped network. Costs include surveying, engineering, design and construction.
<b>Mitigation Action/Project Type</b>	SIP
<b>Goals Met</b>	2, 4
<b>Applies to existing structures/infrastructure, future, or not applicable</b>	N/A
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	Medium
<b>Priority*</b>	TBD
Plan for Implementation	
<b>Responsible Organization</b>	Highway Department
<b>Local Planning Mechanism</b>	Capital Improvement, Stormwater Management
<b>Potential Funding Sources</b>	HMGP
<b>Timeline for Completion</b>	DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:

\* Refer to results of Prioritization (see next page)



**Action Number:** Bea - 11  
**Action Name:** Tioronda Drainage Improvements

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety		
Property Protection		
Cost-Effectiveness		
Technical		
Political		
Legal		
Fiscal		
Environmental		
Social		
Administrative		
Multi-Hazard		
Timeline		
Agency Champion		
Other Community Objectives		
<b>Total</b>		
<b>Priority (High/Med/Low)</b>	TBD	



**Action Number:** Bea - 12  
**Action Name:** South Walnut Street Drainage

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Flood
<b>Specific problem being mitigated:</b>	Drainage system is undersized
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	Existing piping will be replaced with a larger system and additional drainage structures. Costs will include surveying, engineering, design and construction.
	1. drainage structures. Costs will include surveying, engineering, design and construction.
	2. Do nothing – current problem continues
	3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Existing piping will be replaced with a larger system and additional drainage structures. Costs will include surveying, engineering, design and construction.
<b>Mitigation Action/Project Type</b>	SIP
<b>Goals Met</b>	2, 4
<b>Applies to existing structures/infrastructure, future, or not applicable</b>	N/A
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	Medium
<b>Priority*</b>	TBD
Plan for Implementation	
<b>Responsible Organization</b>	Highway Department
<b>Local Planning Mechanism</b>	Capital Improvement, Stormwater Management
<b>Potential Funding Sources</b>	HMGP
<b>Timeline for Completion</b>	DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:

\* Refer to results of Prioritization (see next page)



**Action Number:** Bea - 12  
**Action Name:** South Walnut Street Drainage

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety		
Property Protection		
Cost-Effectiveness		
Technical		
Political		
Legal		
Fiscal		
Environmental		
Social		
Administrative		
Multi-Hazard		
Timeline		
Agency Champion		
Other Community Objectives		
<b>Total</b>		
<b>Priority (High/Med/Low)</b>	TBD	



**Action Number:** Bea - 13  
**Action Name:** Riverfront Park

Assessing the Risk	
<b>Hazard(s) addressed:</b>	Severe Storm, Severe Winter Storm, Flooding, Earthquake
<b>Specific problem being mitigated:</b>	Riverfront Park floods; lack of protection
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	1. Mitigation includes the installation of a sea wall (concrete and/or large concrete block) around the park, and leading to the ferry dock, approximately 2,350 linear feet. Costs include engineering, permitting and construction. 2. Do nothing – current problem continues 3. No other feasible options were identified
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Mitigation includes the installation of a sea wall (concrete and/or large concrete block) around the park, and leading to the ferry dock, approximately 2,350 linear feet. Costs include engineering, permitting and construction.
<b>Mitigation Action/Project Type</b>	SIP
<b>Goals Met</b>	2, 4
<b>Applies to existing structures/infrastructure, future, or not applicable</b>	N/A
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	High
<b>Priority*</b>	TBD
Plan for Implementation	
<b>Responsible Organization</b>	City Council, Planning Board
<b>Local Planning Mechanism</b>	Capital Improvement, Stormwater Management
<b>Potential Funding Sources</b>	HMGP
<b>Timeline for Completion</b>	DOF
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: Progress on Action/Project:

\* Refer to results of Prioritization (see next page)



**Action Number:** Bea - 13  
**Action Name:** Riverfront Park

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety		
Property Protection		
Cost-Effectiveness		
Technical		
Political		
Legal		
Fiscal		
Environmental		
Social		
Administrative		
Multi-Hazard		
Timeline		
Agency Champion		
Other Community Objectives		
<b>Total</b>		
<b>Priority (High/Med/Low)</b>	TBD	