



SOMERSET COUNTY

HAZARD MITIGATION PLAN

SOMERSET COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

FINAL PLAN UPDATE
JULY 2019

www.co.somerset.nj.us/hmp

Section 9.4: Borough of Bernardsville Annex

*Prepared by the Somerset County
Mitigation Planning Committee*



9.4 Borough of Bernardsville

This section presents the jurisdictional annex for The Borough of Bernardsville.

9.4.1 HAZARD MITIGATION PLAN POINTS OF CONTACT

Hazard Mitigation Plan Points of Contact					
Primary Point of Contact			Alternate Point of Contact		
Name: Kevin J. Valentine, Chief of Police Address: 166 Mine Brook Rad Bernardsville, New Jersey 07924 Phone Number: (908) 766-0037 Fax Number: (908) 766-0917 E-mail Address: kvalentine@bernardsvillepd.org			Name: Ralph Maresca, Borough Administrator/CFO Address: 166 Mine Brook Rad Bernardsville, New Jersey 07924 Phone Number: (908) 766-3000 ext.148 Fax Number: (908) 766-0917 E-mail Address: rmaresca@bernardsvilleboro.org		
Municipal HMP Committee Members					
Local Jurisdiction Role/Position	Name	Email	Phone	Date Notified About Mitigation Plan Development Process	Agreed to participate? (Yes/No)
Emergency Manager	Kevin J. Valentine	kvalentine@bernardsvillepd.org	908 766 0037 131	8/2/2017	Yes
Floodplain Manager/ Floodplain Administrator	Paul Ferrero	paul.ferrero@ferreroengineering.com	908 879-6209	8/2/2017	Yes
Public Works Director / City Engineer	John Macdowall	jmacdowall@bernardsvilleboro.org	908 766 3000 147	8/2/2017	Yes
Fiscal/Budget Officer	Ralph Maresca	rmaresca@bernardsvilleboro.org	908 766 3000 148	8/2/2017	Yes
Manager/Administrator	Ralph Maresca	rmaresca@bernardsvilleboro.org	908 766 3000 148	8/2/2017	Yes
Elected Officials	Kevin Sooy	mayor@bernardsvilleboro.org	908 766 3000 141	8/2/2017	Yes
Other 1: Buildings/Grounds Project Manager	Doug Walker	dwalker@bernardsvilleboro.org	908 766 3000	8/2/2017	Yes

9.4.2 PROFILE

9.4.2.1 POPULATION

The population of Borough of Bernardsville is estimated to be 7,707, based on information gathered during the 2010 U.S. Census. Census population estimates of July 2017 indicated a total population of 7,815.

9.4.2.2 LOCATION

The Borough of Bernardsville (hereinafter referred to as Bernardsville) is located in the North Central Region of the State of New Jersey. It is located at the northern most portion of Somerset County. Bernardsville borders the Morris County communities of Mendham Township, Mendham Borough, and Harding Township to the north. The Somerset County communities of Bernards Township, Far Hills, and Peapack-Gladstone also border Bernardsville. The Borough is dissected by NJ State Route 202 and is near the intersection of US Route 287 and US Route 78.

According to the U.S. Census Bureau, the Borough has a total area of 12.9 square miles of which, 12.9 miles of it is land and 0.08% is water.

9.4.2.3 Brief History

Bernardsville was incorporated as a borough by an Act of the New Jersey Legislature on March 6, 1924 from portions of Bernards Township, based on the results of a referendum held on April 29, 1924.

Bernardsville was originally a section of Bernards Township, New Jersey known as Vealtown. In 1840, Vealtown became Bernardsville, named after Sir Francis Bernard, Colonial Governor from 1758 to 1760. Nestled in the northern most part of Somerset County, just 12 miles south of Morristown, New Jersey, this rustic community sits in some of the last vestiges of the Great Eastern Forest.

After the American Civil War, many wealthy and prominent New Yorkers moved into the area, first as summer visitors, then as permanent residents of the Bernardsville Mountain.

The railroad line was built through Bernardsville in 1872 and played an important role in the borough's development. Bernardsville did not become an independent municipality until 1924, when it split from Bernards Township.

9.4.2.4 Governing Body Format

Bernardsville is governed by a Mayor and six-member Borough Council. The Borough consists of 9 departments: Administration, Borough Clerk, Finance, Tax Collection, Tax Assessment, Public Works, Police, Construction and Court. The Borough has 9 Boards, Committees, and Commissions which report to the City Council, and numerous ad hoc committees which report to the Mayor.

9.4.2.5 Growth/Development Trends

Bernardsville did not note any major residential or commercial development since the 2014 HMP, or any major infrastructure development planned for the next 5 years in the municipality.

New Development/Potential Development in Municipality						
Property Name	Type (Residential or Commercial)	No. of Structures	Address	Block and Lot	Known Hazard Zone	Description /Status
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Regulations/codes/ordinances in place in this community that will work to protect new development from the effects of natural hazards were noted by the Borough to include the following:

1. Borough Flood Damage Prevention Ordinance (Code 14-5)
2. Borough Flood Plain Ordinance (Code 14 – 4)
3. Borough Steep Slope Regulations (Borough Code Article 12 specifically 12 – 5.3, Article 14 -2.5)
4. Borough Storm Water Ordinance (Ord. # 2005-1375 §4)
5. Borough Code Chapter XXII Storm water Regulations
6. Bernardsville Borough Land Use Ordinance 98-1135 (Land Development Code Article 1 -19)
7. NJDEP Flood Hazard Area Control Act Rules, N.J.A.C. 7:13

9.4.3 NATURAL HAZARD EVENT HISTORY SINCE 2014

Somerset County has a history of natural hazard events as detailed in 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. The table below presents a summary of events that have occurred from 2014 to the present to indicate the range and impact of natural hazard events in the community. Information regarding specific damages is included if available based on reference material or local sources. For details of events prior to 2014, refer to Section 5.0 of this plan.

Natural Hazard Event History (2014 to present)				
Type of Event	FEMA Disaster # (if applicable)	County Designated?	Date	Approximate Damage Assessment
Cold/Wind Chill	N/A	N/A	January 4, 2014	No local damage reported
Strong Wind	N/A	N/A	January 6, 2014	No local damage reported
Flood	N/A	N/A	January 6, 2014	No local damage reported
Cold/Wind Chill	N/A	N/A	January 7, 2014	No local damage reported
Cold/Wind Chill	N/A	N/A	January 22, 2014	No local damage reported
Winter Storm	N/A	N/A	February 12, 2014	No local damage reported
Flood	N/A	N/A	February 22, 2014	No local damage reported
Strong Wind	N/A	N/A	March 12, 2014	No local damage reported
Flood	N/A	N/A	March 30, 2014	No local damage reported
Flood	N/A	N/A	April 1, 2014	No local damage reported
Thunderstorm Wind	N/A	N/A	April 15, 2014	No local damage reported
Flood	N/A	N/A	April 15, 2014	No local damage reported
Flood	N/A	N/A	April 30, 2014 to May 1, 2014	No local damage reported
Thunderstorm Wind	N/A	N/A	May 10, 2014	No local damage reported
Earthquake, Magnitude 1.9, 6 km N of Boonton (Montville Twp.)	N/A	N/A	May 31, 2014	No local damage reported
Earthquake, Magnitude 1.0, 13 km SW of Ramblewood, NJ (Laurel Springs Boro.)	N/A	N/A	June 19, 2014	No local damage reported
Thunderstorm Wind	N/A	N/A	July 2, 2014	No local damage reported
Heat	N/A	N/A	July 2, 2014	No local damage reported
Thunderstorm Wind	N/A	N/A	July 3, 2014	No local damage reported
Flash Flood	N/A	N/A	July 3, 2014	No local damage reported

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Natural Hazard Event History (2014 to present)				
Type of Event	FEMA Disaster # (if applicable)	County Designated?	Date	Approximate Damage Assessment
Thunderstorm Wind	N/A	N/A	July 8, 2014	No local damage reported
Earthquake, Magnitude 1.6, 3 km W of Jersey City, NJ (Kearny Town)	N/A	N/A	July 8, 2014	No local damage reported
Flood	N/A	N/A	July 16, 2014	No local damage reported
Earthquake, Magnitude 1.2, 4 km SW of Ringwood, NJ (Ringwood Boro.)	N/A	N/A	July 28, 2014	No local damage reported
Flash Flood	N/A	N/A	August 21, 2014	No local damage reported
Earthquake, Magnitude 1.3, 2 km S of Park Ridge, NJ (Woodcliff Lake Boro.)	N/A	N/A	September 3, 2014	No local damage reported
Flood	N/A	N/A	December 9, 2014	No local damage reported
Earthquake, Magnitude 1.9, 13 km SE of Twin Rivers, NJ (Millstone Twp.)	N/A	N/A	December 13, 2014	No local damage reported
Earthquake, Magnitude 1.5, 2 km SW of Clifton, NJ (Bloomfield Twp.)	N/A	N/A	December 28, 2014	No local damage reported
Cold/Wind Chill	N/A	N/A	January 7, 2015	No local damage reported
Flood	N/A	N/A	January 18, 2015	No local damage reported
Strong Wind	N/A	N/A	February 2, 2015	No local damage reported
Cold/Wind Chill	N/A	N/A	February 13, 2015	No local damage reported
Strong Wind	N/A	N/A	February 15, 2015	No local damage reported
Cold/Wind Chill	N/A	N/A	February 15, 2015	No local damage reported
Cold/Wind Chill	N/A	N/A	February 16, 2015	No local damage reported
Cold/Wind Chill	N/A	N/A	February 20, 2015	No local damage reported
Cold/Wind Chill	N/A	N/A	February 24, 2015	No local damage reported
Flood	N/A	N/A	March 11, 2015	No local damage reported
Flood	N/A	N/A	March 14, 2015	No local damage reported

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Natural Hazard Event History (2014 to present)				
Type of Event	FEMA Disaster # (if applicable)	County Designated?	Date	Approximate Damage Assessment
Earthquake, Magnitude 1.2, 2 km SW of Clifton, NJ (Bloomfield Twp.)	N/A	N/A	March 27, 2015	No local damage reported
Strong Wind	N/A	N/A	April 4, 2015	No local damage reported
Flash Flood	N/A	N/A	May 31, 2015	No local damage reported
Earthquake, Magnitude 1.2, 2 km N of Wanaque, NJ (Ringwood Boro.)	N/A	N/A	July 12, 2015	No local damage reported
Heat	N/A	N/A	July 19, 2015	No local damage reported
Earthquake, Magnitude 2.7, 3.5 km N of Bernardsville, NJ (Bernardsville Boro.)	N/A	N/A	August 14, 2015	No local damage reported
Flash Flood	N/A	N/A	August 19, 2015	No local damage reported
Flood	N/A	N/A	August 19, 2015	No local damage reported
Earthquake, Magnitude 1.4, 5 km WNW of Fairfield, NJ (Fairfield Twp.)	N/A	N/A	August 22, 2015	No local damage reported
Drought and Excessive Heat	N/A	N/A	April 2015 – September 2015	No local damage reported
Combined effects of freeze, excessive heat, and drought	N/A	N/A	April 2016 – September 2016	No local damage reported
Earthquake, Magnitude 2.1, 2.4 km NW of Ringwood, NJ (Ringwood Boro.)	N/A	N/A	January 2, 2016	No local damage reported
Severe Winter Storm and Snowstorm (Blizzard)	DR-4264	Yes	January 22-24, 2016	No local damage reported
Earthquake, Magnitude 1.1, 1.1 km NW of Butler, NJ (Bloomingdale Boro.)	N/A	N/A	February 19, 2016	No local damage reported
Flash Flood	N/A	N/A	February 24, 2016	No local damage reported
Thunderstorm Wind	N/A	N/A	April 2, 2016	No local damage reported
Earthquake, Magnitude 0.8, 4.4 km N of Butler, NJ (Bloomingdale Boro.)	N/A	N/A	May 27, 2016	No local damage reported
Lightning	N/A	N/A	June 8, 2016	No local damage reported
Thunderstorm Wind	N/A	N/A	June 8, 2016	No local damage reported
Lightning	N/A	N/A	June 28, 2016	No local damage reported

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Natural Hazard Event History (2014 to present)				
Type of Event	FEMA Disaster # (if applicable)	County Designated?	Date	Approximate Damage Assessment
Thunderstorm Wind	N/A	N/A	June 28, 2016	Thunderstorms produced strong winds; trees were downed in Bernardsville and Far Hills.
Earthquake, Magnitude 1.1, 1 km NW of Butler, NJ (Butler Boro.)	N/A	N/A	July 4, 2016	No local damage reported
Heavy Rain	N/A	N/A	July 8, 2016	No local damage reported
Flood	N/A	N/A	July 8, 2016	No local damage reported
Thunderstorm Wind	N/A	N/A	July 18, 2016	No local damage reported
Thunderstorm Wind	N/A	N/A	July 25, 2016	No local damage reported
Thunderstorm Wind	N/A	N/A	July 25, 2016	No local damage reported
Thunderstorm Wind	N/A	N/A	July 25, 2016	No local damage reported
Flood	N/A	N/A	July 25, 2016	No local damage reported
Heavy Rain	N/A	N/A	July 30, 2016	No local damage reported
Heavy Rain	N/A	N/A	July 31, 2016	No local damage reported
Heavy Rain	N/A	N/A	July 31, 2016	No local damage reported
Heavy Rain	N/A	N/A	July 31, 2016	No local damage reported
Heavy Rain	N/A	N/A	July 31, 2016	No local damage reported
Heavy Rain	N/A	N/A	July 31, 2016	No local damage reported
Heavy Rain	N/A	N/A	July 31, 2016	No local damage reported
Flash Flood	N/A	N/A	July 31, 2016	No local damage reported
Earthquake, Magnitude 0.8, 2.2 km SW of Clifton, NJ (Bloomfield Twp.)	N/A	N/A	July 31, 2016	No local damage reported
Earthquake, Magnitude 1.0, 2 km N of Wanaque, NJ (Wanaque Boro.)	N/A	N/A	August 9, 2016	No local damage reported
Earthquake, Magnitude 0.5, 1 km N of Butler, NJ (Bloomingdale Boro.)	N/A	N/A	August 9, 2016	No local damage reported
Earthquake, Magnitude 0.6, 5 km NE of Wanaque, NJ (Ringwood Boro.)	N/A	N/A	September 20, 2016	No local damage reported
Earthquake, Magnitude 1.5, 2.6 km W of Belmar, NJ (Westville Boro.)	N/A	N/A	November 6, 2016	No local damage reported

Natural Hazard Event History (2014 to present)				
Type of Event	FEMA Disaster # (if applicable)	County Designated?	Date	Approximate Damage Assessment
Earthquake, Magnitude 2.0, 16.3 km E of Highlands, NJ (Middletown Twp.)	N/A	N/A	November 6, 2016	No local damage reported
Earthquake, Magnitude 1.31, 1.4 km S Morris Plains, NJ (Morris Plains Boro.)	N/A	N/A	March 25, 2017	No local damage reported
Flood	N/A	N/A	March 31, 2017	No local damage reported
Hail	N/A	N/A	May 14, 2017	No local damage reported
Hail	N/A	N/A	May 31, 2017	No local damage reported
Flood	N/A	N/A	June 24, 2017	No local damage reported
Flood	N/A	N/A	July 22, 2017	No local damage reported
Flood	N/A	N/A	August 22, 2017	No local damage reported
Flood	N/A	N/A	August 22, 2017	No local damage reported
Heavy Rain	N/A	N/A	August 23, 2017	No local damage reported
Earthquake, Magnitude 1.71, 3.7 km SW of Morris Plains, NJ (Morris Twp.)	N/A	N/A	September 25, 2017	No local damage reported
Earthquake, Magnitude 0.98, 2.7 km SW of Morris Plains, NJ (Morris Twp.)	N/A	N/A	September 30, 2017	No local damage reported
Flood	N/A	N/A	October 29, 2017	No local damage reported
Earthquake, Magnitude 1.38, 3.5 km NW of Keansburg, NJ (Keansburg Boro.)	N/A	N/A	November 8, 2017	No local damage reported

Natural Hazard Event History (2014 to present)				
Type of Event	FEMA Disaster # (if applicable)	County Designated?	Date	Approximate Damage Assessment
Severe Winter Storm and Snowstorm (Blizzard)	DR-4368	Yes	March 6, 2018	Although all portions of the county experienced significant snowfall from this event, the higher amounts (around one and one half feet) occurred in the eastern sections of the county closer to the off shore low pressure system. Thundersnow also occurred in a few locations. The total snowfall in Bernardsville was reported to be 19.2 inches.

Note:

DR = Major Disaster Declaration

EM = Emergency Declaration

N/A = Not applicable

9.4.4 NATURAL HAZARD RISK/VULNERABILITY RISK RANKING

The table below summarizes the vulnerability risk rankings of potential hazards of the Borough of Bernardsville (updated in 2018).

Natural Hazard Risk/Vulnerability Risk Ranking				
Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard ^{a, c}	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking ^b
Flood	1% Annual Chance: \$12,100,000 0.2% Annual Chance: \$22,800,000	Frequent	18	Medium
Severe Storm	100-Year MRP: \$471,548 500-Year MRP: \$2,132,279 Annualized Loss: \$25,043	Frequent	30	Medium
Severe Winter Storm	1% of GBS: \$12,630,290 5% of GBS: \$63,151,450	Frequent	27	Medium
Earthquake	500-Year MRP: \$2,257,346 2,500-Year MRP: \$32,910,022 Annualized Loss: \$34,075	Occasional	12	Low
Drought	Not available	Occasional	20	Medium
Extreme Temperature	Not available	Frequent	18	Medium
Wildfire	Not available	Occasional	32	High

Note

- Building damage ratio estimates based on FEMA 386-2 (August 2001)
- The valuation of general building stock and loss estimates was based on custom inventory for Somerset County.
- High = Total hazard priority risk ranking score of 31 and above
Medium = Total hazard priority risk ranking of 15-30
Low = Total hazard risk ranking below 15
- Loss estimates for the severe storm and severe winter storm hazards are structural values only and do not include the value of contents.
- Loss estimates for the flood and earthquake hazards represent both structure and contents.
- The HAZUS-MH earthquake model results are reported by Census Tract.

9.4.5 CAPABILITY ASSESSMENT

This section describes the following capabilities of the local jurisdiction:

- Legal and regulatory capability;
- Administrative and technical capability;
- Fiscal capability;
- Community resiliency;
- Community political capability; and
- Community classification.

9.4.5.1 Legal and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Borough of Bernardsville. The Borough reviewed its responses from the 2014 HMP and has revised accordingly as part of this latest plan update.

Legal and Regulatory Capability			
Regulatory Tools (Codes, Ordinances, Plans)	Do you have this? (Y or N)	Enforcement Authority	Code Citation (Section, Paragraph, Page Number, Date of Adoption)
1) Building Code	Y	Bernardsville Construction Code Official Lenny Perre	International Building Code – New Jersey Edition, N.J.A.C. 5:24-3.14, 2/20/07
2) Zoning Ordinance	Y	Geof Price Zoning Officer	N.J.S.A. 40:55D-62
3) Subdivision Ordinance	Y	Geof Price Zoning Officer	N.J.S.A. 40:55D-37
4) NFIP Flood Damage Prevention Ordinance	N	Through consultant: Ferriero Engineering, Boro. Engineer	Flood Damage Prevention Ordinance per N.J.S.A. 40:48- 1 et seq., 7/9/07
4a) Cumulative Substantial Damages	N	Paul Ferriero, Boro. Engineer	-
4b) Freeboard	-	-	-
5) Growth Management	-	-	-
6) Floodplain Management / Basin Plan	Y	Through consultant: Ferriero Engineering,	Flood Damage Prevention Ordinance, per N.J.S.A. 40:48-

Legal and Regulatory Capability			
Regulatory Tools (Codes, Ordinances, Plans)	Do you have this? (Y or N)	Enforcement Authority	Code Citation (Section, Paragraph, Page Number, Date of Adoption)
		Borough Engineer	1, et seq.
7) Stormwater Management Plan/Ordinance	Y	Bernardsville Zoning Officer Geof Price	Borough Land Use Ordinance 2006-1423 2007-1478
8) Comprehensive Plan / Master Plan/ General Plan	Y	Bernardsville Borough Planning Board	Master Plan (Jan.25, 2007), 2017 Masterplan Reexamination (12 15 2016)
9) Capital Improvements Plan	Y	Borough Administrator Ralph Maresca	Authority per N.J.S.A. 40:55D- 29
10) Site Plan Review Requirements	Y	Bernardsville Zoning Officer Geof Price	Authority per N.J.S.A. 40:55D- 37, 05/18/98 Borough Land Development Code Revised Vol.2
11) Open Space Plan	Y	Bernardsville Open Space Committee	-
12) Stream Corridor Management Plan	-	-	-
13) Watershed Management or Protection Plan	-	-	-
14) Economic Development Plan	-	-	-
15) Comprehensive Emergency Management Plan	Y	Bernardsville OEM	04/01/17 Mayoral Promulgation
16) Emergency Response Plan	Y	Bernardsville OEM	04 01 2017 Included in #15 above
17) Post-Disaster Recovery Plan	-	-	-
18) Post-Disaster Recovery Ordinance	-	-	-
19) Real Estate Disclosure Requirement	-	-	-
20) Other (Special Purpose Ordinances such as critical or sensitive areas)	-	-	-

9.4.5.2 Administrative and Technical Capability

The table below summarizes potential staff and personnel resources available to the Borough of Bernardsville. The Borough reviewed its responses from the 2014 HMP and has revised accordingly as part of this latest plan update.

Administrative and Technical Capability		
Staff / Personnel Resources	Available (Y or N)	Department / Agency / Position
1) Planner(s) or Engineer(s) with knowledge of land development and land management practices	Y	Engineering Dept., thru consultant: Ferriero Engineering, Borough Engineer, Planning Bd. Engineer, Bd. of Adj. Engineer.
2) Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Through consultant: Ferriero Engineering, Borough Engineer
3) Planners or engineers with an understanding of natural hazards	Y	Through consultant: Ferriero Engineering, Borough Engineer
4) NFIP Floodplain Administrator	Y	Paul Ferriero, Borough Engineer
5) Surveyor(s)	Y	Through consultant: Ferriero Engineering, Borough Engineer
6) Personnel skilled or trained in GIS applications	Y	Through consultant: Ferriero Engineering, Borough Engineer
7) Scientist familiar with natural hazards	N	-
8) Emergency Manager	Y	Chief Kevin Valentine, OEM Coordinator
9) Grant Writer(s)	N	-
10) Staff with expertise or training in benefit/cost analysis	N	-

9.4.5.3 Fiscal Capability

The table below summarizes financial resources available to the Borough of Bernardsville. The Borough reviewed its responses from the 2014 HMP and has revised accordingly as part of this latest plan update.

Fiscal Capability	
Financial Resources	Accessible or Eligible to use (Yes/No/Don't know)
1) Community Development Block Grants (CDBG)	Y, Borough Adm. CFO Ralph Maresca
2) Capital Improvements Project Funding	Y, Borough Adm. CFO Ralph Maresca/Borough Council
3) Authority to levy taxes for specific purposes	DK, Borough Adm. CFO Ralph Maresca/Borough Council
4) User fees for water, sewer, gas or electric service	Y, Borough Adm. CFO Ralph Maresca/Borough Council
5) Impact fees for homebuyers or developers of new development/homes	N
6) Incur debt through general obligation bonds	Y, Borough Adm. CFO Ralph Maresca/Borough Council
7) Incur debt through special tax bonds	Y, Borough Adm. CFO Ralph Maresca/Borough Council
8) Incur debt through private activity bonds	N
9) Withhold public expenditures in hazard-prone areas	N
10) State mitigation grant programs	Y Borough Adm. CFO Ralph Maresca/Borough Council
11) Other	Y, Borough Adm. CFO Ralph Maresca/Borough Council

9.2.5.4 Overall Capabilities

The Borough of Bernardsville 2018 assessment of its overall capabilities to implement hazard mitigation strategies in each of the above categories, in addition to their local assessment of how these capabilities could be expanded and/or improved to reduce risk, is presented in the table below.

Overall legal and regulatory capability to implement hazard mitigation strategies	Overall technical capability to implement hazard mitigation strategies	Overall fiscal capability to implement hazard mitigation strategies	Overall administrative capability to implement hazard mitigation strategies	Community's willingness to enact policies and programs that reduce hazard vulnerabilities
Moderate	Low	Low	Moderate	Moderate
How these capabilities can be expand and/or improved to reduce risk				
Funding for hiring additional personnel and technology for OEM and Hazard Mitigation efforts would be helpful to expand overall capabilities and reduce risk. Hiring a full time Emergency Manager to work full time on Emergency Management Planning and Hazard Mitigation would also help to increase capabilities.				

9.4.5.5 Community Classifications

The table below summarizes classifications for community program available to Bernardsville.

Community Classifications		
Program	Classification	Date Classified
Community Rating System (CRS)	NP	-
Building Code Effectiveness Grading Schedule (BCEGS)	-	-
Public Protection	-	-
Storm Ready	-	-
Firewise	-	-

Notes:

- = Unavailable

N/A = Not applicable

NP = Not participating

* CRS Ranking as of October 2017

The classifications listed above relate to Bernardsville's ability to provide effective services to lessen its vulnerability to the natural 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 1,000 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/>

9.4.6 MITIGATION STRATEGY

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

9.4.6.1 Past Mitigation Actions/Status

The status of all 2014 HMP initiatives was evaluated by the Borough of Bernardsville in 2018 and is presented in the following table. The community has indicated any changes to local since the last version of the plan.

2014 HMP Initiative #	Mitigation Initiative Description	2014 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
BV1	Relocate Overhead Power Lines in front of firehouse to underground. Prevents Isolation of Fire Equipment and Fire HQ during Emergencies	M	All	Borough of Bernardsville OEM; Bernardsville Fire Department, JCP&L Co.				X	No progress to report. No funding or resources available.		X	Project Removed. This project has been determined to not be feasible. The complexity and estimated cost of the project is too extensive in comparison to other projects that are needed.

2014 HMP Initiative #	Mitigation Initiative Description	2014 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
BV2	Construct a culvert and/or bridge over Mine Brook at Municipal Complex. The previous bridge washed away. Rev 08/28/12	M	Flood	Borough of Bernardsville Engineering				X	No progress to report. No funding or resources available.	X	Project being carried over to new plan. Streambank erosion continues to be a problem. Responsibilities for this project have been transferred to Ferriero Engineering Inc. In furtherance of this objective OEM Coordinator Kevin Valentine met with expert officials from Montclair University, FEMA and the US Army 92 Battalion Civil Affairs Unit over the last two years to conduct a preliminary assessment of stream bank erosion along Mine Brook and identify possible funding sources for this project. The project is ongoing pending additional resource allocation, funding and further evaluation.	

2014 HMP Initiative #	Mitigation Initiative Description	2014 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
BV3	Reconstruct and replace foot bridge over Mine Brook at Nervine Memorial Park. The bridge is in poor repair and constantly jams with debris during periods of heavy rain and causes flooding, soil erosion and damage to the bridge.	M	Flood	Borough of Bernardsville Engineer				X	No Progress. Funding not available or allocated for this project.	X		No Change. Project being carried over to new plan.
BV4	Evaluate participation in CRS	L	Flooding	Bernardsville Administrator/ Floodplain Manager	X				PROJECT COMPLETE		X	PROJECT COMPLETE. This project is being removed from the list. Responsibility for this capability is under the control of the Borough Flood Plain Administrator (Borough Engineer)
BV5	Assess town's ability to shelter residents in times of displacement. Identify public facilities to enable residents to have access to heat/a-c, water during hazard events.	M	All	Borough OEM	X				PROJECT COMPLETE		X	PROJECT COMPLETE. This project is being removed from the list. The Borough OEM has the capability to deal with ongoing shelter planning initiatives and will be coordinating new shelter objectives in the next several years.

2014 HMP Initiative #	Mitigation Initiative Description	2014 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
BV6 (BV7)	Review, update, and maintain mutual aid agreements with neighboring communities, including) but not limited to) Borough Code 2-70.2, agreement with Twp. of Mendon for mutual fire, police, and first aid. 2-70.4, inter-municipal agreement for mutual police and fire aid within Somerset County 2-70.13, ordinance specifying assistance requests for mutual aid in police emergencies. 2-70.11, contract with Twp. of Bedminster and long hill to provide street sweeping service (to prevent stormwater back-up.)	H	All Hazards	OEM, Police Department, Fire Department	X				PROJECT COMPLETE		X	PROJECT COMPLETE. Mutual Aid agreements are in place and are reviewed by Borough officials and updated periodically as part of an ongoing existing capability. The project is being removed from the list.
BV 7 (BV8)	Review, implement, and enforce town's policies and programs to prevent trees from threatening lives.	M	All Hazards	Borough Code Enforcement/ Shade Tree	X				PROJECT COMPLETE		X	PROJECT COMPLETE. The Borough has the capability in place to address hazardous trees on an ongoing basis. The project is being removed from the list.

2014 HMP Initiative #	Mitigation Initiative Description	2014 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
BV 8 (BV9)	Assess the need to purchase back-up generators at critical facilities including schools/shelters and communication facilities, including the following shelter facilities: Bernardsville Middle School, Bernardsville and Elementary School; and the Bernardsville Public Library, which serves as a shelter reception center, community resource center, and POD.	M	All Hazards	Borough OEM	X				PROJECT COMPLETE		X	PROJECT COMPLETE. This project is being removed from the list. An assessment of energy needs for shelter facilities has been completed. New site specific projects will be created in the new plan to address energy needs. Additionally, installation of a generator at the Borough Library is complete.
BV9 (BV10)	Participate in multi-jurisdictional update of Somerset County All Hazards Mitigation Plan	H	All	Borough Emergency Management	X				PROJECT COMPLETE		X	PROJECT COMPLETE. This project is being removed from the list. The Borough has appointed a Hazard Mitigation Committee that is responsible to update the plan under the direction of the OEM Coordinator and Borough Administrator.

2014 HMP Initiative #	Mitigation Initiative Description	2014 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
BV 10 (BV11)	Where appropriate, support retrofitting and/or purchasing structure located in hazard prone areas. Current properties under consideration include: 1. The American Water Company, Twin Lakes Community Well. 2. Bernardsville wastewater treatment plant (located in dam inundation area and currently experiencing bank scour and erosion.) 3. Bernardsville Borough Municipal Building Auxiliary Parking Lot and DPW Work Area (see initiative BV13.)	M	Flood	Borough Engineer				X	Lack of funding and resources to begin this project. On Going. No progress to report.	X		Project being carried over to new plan. No Changes.
BV11 (BV12)	Strive to maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g. regulating all new and substantially improved construction in Special Hazard Flood Areas), floodplain identification and mapping, and flood insurance outreach to the community. Further, continue to meet and/or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified as Initiatives below.	M	Flood	Borough Engineer	X				PROJECT COMPLETE		X	PROJECT COMPLETE. This project is being removed from the list. Responsibility for this capability is under the control of the Borough Flood Plain Administrator (Borough Engineer)

2014 HMP Initiative #	Mitigation Initiative Description	2014 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
BV12 (BV2)	Construct drainage culvert to divert water away from flood prone back driveway to Borough Municipal Building Auxiliary Parking Lot and DPW Work Area.	M	Flood	Borough Engineer				X	Lack of funding and resources to begin this project. No progress to report.	X		Project being carried over to new plan. No change.
BV 13	Contact NJAWC to Determine if well #1 is flood prone if so recommend alternative to protect from flooding.	M	Flood	Borough Engineer				X	Lack of funding and resources to begin this project. No progress to report.		X	Project Removed. This well is a private asset owned by NJAWC and is not under the control of BOEM.

2014 HMP Initiative #	Mitigation Initiative Description	2014 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
BV 14	<p>Conduct and facilitate community and public education and outreach for residents and businesses to include, but not be limited to, the following to promote and effect natural hazard risk reduction:</p> <ul style="list-style-type: none"> - Use email notification systems and newsletters to better educate the public on flood insurance, the availability of mitigation grant funding, and personal natural hazard risk reduction measures. 	High	All Hazards	Municipality with support from Planning Partners, County Planning, NJOEM, FEMA	X				PROJECT COMPLETE	X	<p>PROJECT COMPLETE. This project is being removed from the list. The Bernardsville OEM/PD uses social media and the Police Department webpage to distribute information to the community regarding Natural Hazard Risk Reduction and other relevant mitigation information. The Police Dept. OEM participated in Prepare-athon 2016 in partnership with FEMA by distributing preparedness information via Social Media and on the PD website.</p>	

2014 HMP Initiative #	Mitigation Initiative Description	2014 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
BV 15	Improve communication systems.	Medium	All Hazards	Municipality with support from County, NJOEM and FEMA	X				PROJECT COMPLETE		X	PROJECT COMPLETE. This project is being removed from the list. The emergency communications/radio system received upgrades and improvements using local funding from the Borough. A new radio link was installed at Peachcroft Tower Site and a new dispatch radio controller was installed. Equipment is purchased annually as funding becomes available.
BV 16	Support ongoing updates of Comprehensive Emergency Management Plans	High	All Hazards	Municipality with support from County Emergency Management	X				PROJECT COMPLETE		X	PROJECT COMPLETE. The Borough has an active and State approved EOP as well as other comprehensive plans in place. The plans are now being maintained with updates. This project is being removed from the plan.

2014 HMP Initiative #	Mitigation Initiative Description	2014 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
BV 17	Create/Enhance/Maintain Mutual Aid agreements with neighboring communities for continuity of operations	High	All Hazards	Municipality with support from County, NJOEM, FEMA and surrounding communities	X				PROJECT COMPLETE		X	PROJECT COMPLETE. This project is being removed from the list. The Borough OEM has the capability to deal with maintaining Mutual Aid agreements are in place. Refer also to BV6.
BV 18	Identify and develop agreements with entities that can provide support with FEMA/NJOEM paperwork after disasters; qualified damage assessment personnel – Improve post-disaster capabilities – damage assessment; FEMA/NJOEM paperwork compilation, submissions, record-keeping	Medium	All Hazards	Municipality with support from County, NJOEM and FEMA				X	Project Removed in 2016.		X	Project Removed in 2016.

2014 HMP Initiative #	Mitigation Initiative Description	2014 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
BV 19	Work with regional agencies (i.e. County and NJOEM) to help develop damage assessment capabilities at the local level through such things as training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).	Medium	All Hazards	Municipality with support from County, NJOEM and FEMA		X			Continuing. This project was started but is not complete. Additional funding, training and resources are required.	X		Project being carried over to new plan. In 2016 the Bernardsville OEM Coordinator received training in Rapid Damage Assessment and attended the TTT Program for same. Also BOEM is coordinating with SCOEM to initiate use of the Orion Damage Assessment Reporting System going into 2018. BOEM is attempting to identify individuals to serve on the Borough Damage Assessment Team.
BV 20	Continue to support the implementation, monitoring, maintenance, and updating of this Plan (through participation in the 5 year Plan Update), as defined in Section 7.0	High	All Hazards	Municipality with support from Planning Partners,	X				PROJECT COMPLETE		X	This project is being removed from the plan. Bernardsville has the capability to participate with the maintenance and continual development of the plan. Bernardsville is participating with the SCOEM Hazard Mitigation Process.

2014 HMP Initiative #	Mitigation Initiative Description	2014 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
BV 21	Enhance the County/community resilience to severe storms (incl. severe winter storms) by joining the NOAA "Storm Ready" program and supporting communities in joining the program.	Medium	Severe Storm	Borough with support from County, NJOEM and FEMA				X	Funding and resources are not available to participate in this program.		X	The Borough does not have the funding and resources to participate in this program. Project Removed.
BV 22	Implement permit fee waivers for installation of backup power for private property.	H	Severe Storm	Borough Council				X	Pending. No progress to report. Lack of coordination and resources.	X		Project being carried over to new plan. No Progress to report.

2014 HMP Initiative #	Mitigation Initiative Description	2014 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
BV 23	Provide public education and outreach on proper installation and/or use of backup power	H	Severe Storm	BOEM	X				PROJECT COMPLETE		X	Project Completed. Future related activities included in ongoing OEM activities. The Bernardsville Office of Emergency Management distributed information regarding the safe use of emergency generators via postings on the Bernardsville Police Department Website and by placing brochures at the information kiosks in the Police Department and Borough Public Library. The Bernardsville OEM has the continuing capability to post, distribute and make this information available again as needed from time to time as needed.

SECTION 9.4: BOROUGH OF BERNARDSVILLE

2014 HMP Initiative #	Mitigation Initiative Description	2014 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
BV 24	Mitigate stream bank erosion occurring along Mine Brook where the stream empties into the pond in Nervine Park near the firehouse and at several other locations near the WWTP downstream of Borough Hall. (Refer to BV 2 for related project)	M	Flooding, Erosion	Borough Engineer, DPW				X	Funding and resources have not been made available. Attempts at securing grants previously have been unsuccessful. The flooding and stream bank erosion continues.	X	Project being carried over to new plan. Streambank erosion continues to worsen with every rainstorm. With every rainstorm there is further and further deterioration of the stream bank directly adjacent to the Borough parking lot and very near the wastewater treatment plant. If this stream bank erosion is allowed to continue unabated it will not be long before the parking lot begins to collapse into the stream, access to the Borough parking lot will be cut off at the lower driveway and perhaps most importantly stream water will interfere with sewer plant operations or perhaps even flood the sewer plant. If there is continued erosion in the area of the wastewater treatment plant, the building and equipment will be compromised by floodwaters and perhaps even collapse into the Mine Brook. Previous storms such as Tropical Storm Floyd, Hurricane Irene, and Super Storm Sandy have taken a heavy toll on the banks	

2014 HMP Initiative #	Mitigation Initiative Description	2014 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
BV25	Evaluate condition of Culvert for Mine Brook under Old Quarry Road	M	Flooding, Erosion	Borough Engineer, DPW				X	Lack of funding and resources to begin this project.	x		Project being carried over to new plan. No Change. The culvert remains in need of further evaluation and monitoring.
BV 26	Bernardsville Library/Shelter Generator Project	H	Severe Storm	Bernardsville OEM		x			This project is 99% complete and has been moved to the project closeout phase. The project should be complete before the new plan begins.		X	Project Removed - will not be carried over to the new plan. The generator has been installed and is now operational. Project is mostly complete with the exception of close out documents and final grant payment to the Borough.

2014 HMP Initiative #	Mitigation Initiative Description	2014 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
BV 27	<p>Claremont Road Field House/Animal Shelter Generator Project</p> <p>The Borough of Bernardsville owns a small two-room building at a recreational baseball field complex. The building has electricity, hot and cold running water in the bathroom facility. The Office of Emergency Management has identified several uses for this building during emergencies. They include an animal shelter in support of the Bernards High School Emergency Shelter which is not a pet friendly shelter, field operations office for command or emergency officials, and Medical POD, a first aid/triage treatment area, or a FEMA field office. Other uses for this building are also possible in support of emergency operations. This building has no emergency power but does have a natural gas supply. The current natural gas supply is sufficient to support an on-site natural gas powered emergency electric generator.</p>	M	Severe Storm	Bernardsville OEM				X	Project ongoing. Funding needs to be secured and more planning and political support is needed to make this happen.	X	Project being carried over to new plan. Overall the condition of the building is in poor repair and will require additional funding to allow it to be used for OEM purposes.	

2014 HMP Initiative #	Mitigation Initiative Description	2014 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
BV 28	Somerset Hills School District - Bedwell School and Bernardsville Middle School buildings located on Seney Drive. Installation of backup emergency generator systems at the Bedwell Elementary School and the Bernardsville Middle School are planned for the 2018 budget cycle. The installation of these systems will provide electricity needed to support life safety systems such as security systems, fire detection systems, emergency lighting and power needed to run the heating systems at each facility. The systems as designed will not bring the facilities up to "shelter ready" status and are meant to protect the physical facilities only. This project is being fully funded by the SHSD. Looking to the future, SHSD planners have discussed the capacity of the generators planned, but do not have any additional sizing specs or cost estimates from the engineers yet for a size increase. Whatever size they end up being they will be natural gas.	M	Severe Storm	Bernardsville OEM/SHSD				X	On Going. Funding needs to be secured and further planning needs to be facilitated in order to provide emergency power adequate to allow the facilities to be used as emergency shelters.	X	This project will be carried over into the new plan. The project will be broken up into individual site specific projects for the new plan. The need to improve the emergency generators at the facility has been identified and funding is in the process of being evaluated. SHSD and OEM had had informal conversations about what is needed to upgrade the facility emergency power plans to prepare for shelter use. Additional planning is pending.	

2014 HMP Initiative #	Mitigation Initiative Description	2014 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
BV 29	<p>OEM/DPW Storage Facility The Bernardsville Borough Municipal Complex contains three buildings that are old and were not designed for the current use. As a result storage is very limited. There is a critical need for storage to support Police Department, DPW, and OEM operations. Presently equipment is stored over a variety of locations both on-site and off-site, as well as in trailers and out in the open air. As a result vehicles and equipment are exposed to extreme weather conditions, heat, cold and moisture which impact their reliability and lifespan. There is an identified need to construct a separate storage facility. The facility will serve to provide additional storage for vehicles, equipment, and supplies from all three departments. A proposal exists to construct an off-site storage area in close proximity to the municipal complex. Funding has currently not been made available for this project in the need persists.</p>	H	Severe Storm	Bernardsville DPW/ OEM		X			Project is considered complete and is not being carried over. Additional site improvements if needed will be funded by the Borough.	X	Project Removed. Complete.	

2014 HMP Initiative #	Mitigation Initiative Description	2014 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
BV 30	<p>Gasoline Storage Facility Upgrades Bernardsville has a gasoline storage facility located at the municipal complex. The facility consists of an above ground fuel holding tank and gasoline pump that is powered by electricity. A backup generator provides power during emergencies. The existing equipment is old and more importantly the storage capacity is very limited. The fuel tank requires constant refueling and if deliveries are interrupted the fuel supply for emergency vehicles is compromised. Contributing to this problem is the fact that this fuel site provides gasoline for all borough police cars, gas powered DPW and WWTP vehicles, equipment, and fire dept. vehicles, OEM equipment and Somerset Hills School District School Vehicles and maintenance vehicles. The capacity of this fuel storage site is simply not designed to support this amount of use. During Hurricane Sandy the Borough fuel supply was severely compromised when fuel simply was not available and extreme measures were taken to obtain fuel at another local private business site. There are no alternative fuel supply options currently available to the Borough, especially during times of emergency. This fuel supply is critical to emergency operations.</p>	M	Severe Storm Power Outages	DPW/Bernardsville OEM				X	Currently no funding or other resources available to start this project.	X	Project being carried over to new plan. There is no change in the scope of the project.	

2014 HMP Initiative #	Mitigation Initiative Description	2014 HMP Priority	Hazard(s) Mitigated	Lead and Support Agencies	Status				Status Details	Relevance		Relevance Details
					Completed	Initiated but Not Completed	Ongoing Type of Activity	Not Initiated		Still Relevant - Carry Forward to Updated Mitigation Strategy	No Longer Relevant - Omit from Updated Mitigation Strategy	
BV 31	Emergency Evacuation Route Road Improvements	M	Severe Storms	DPW	X				PROJECT COMPLETE.		X	Project to be removed from list. The Borough DPW has an ongoing and continuing Road Maintenance and rebuilding plan that should be sufficient to deal with any remaining concerns associated with evacuation routes.

9.4.6.2 Hazard Vulnerabilities Identified

Bernardsville is subject to a variety of hazards as identified in the Bernardsville Borough EOP. Various storm types account for much of the Borough's vulnerability. Winter storms resulting in snow and ice, thunderstorms, hurricanes and windstorms present a considerable hazard to the Borough. Other natural hazards include drought, wildfire, localized floods, and infrequent tornado hazards. With lesser frequency the Borough is also subject to human-caused or technological hazards such as chemical releases, biological emergencies, and hazardous material transportation incidents.

In recent years the majority of damage in the Borough due to natural hazards has been in the form of wind damage. Falling trees have been identified as causing serious damage and continue to present a serious threat to residential structures, transportation infrastructure, and public utility infrastructures. Fortunately, Bernardsville has been spared the loss of life or any significant storm related injuries in recent years.

It is estimated that in Bernardsville, 95 residents live within the 1% annual chance flood area (NFIP Special Flood Hazard Area). A total of \$519,144,000 (24.7%) of the municipality's general building stock replacement cost value (structure and contents) is located within the 1% annual chance flood area.

There are 52 NFIP policies in the community and there are 26 policies located within the 1% annual chance flood area. FEMA has identified 1 Repetitive Loss (RL) properties including 0 Severe Repetitive Loss (SRL) properties in the municipality.

HAZUS-MH estimates that for a 1% annual chance flood, \$12,100,000 (58%) of the municipality's general building stock replacement cost value (structure and contents) will be damaged, 232 households may be displaced, 79 people may seek short-term sheltering, and an estimated 225 tons of debris could be generated.

Further information regarding the summary of the community's participation in the NFIP is provided in the table below.

NFIP Summary								
Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 1% Boundary (3)	# Policies in 0.2% - Boundary (3)	# Policies Outside the 0.2% Flood Hazard (3)
Bernardsville (B)	52	23	\$119,884	1	-	26	4	22

Source:

- (1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA Region 2 via NJDEP in August 2017 and are current as of March 31, 2017. Please note the total number of repetitive loss properties excludes the severe repetitive loss properties.
- (2) Information regarding total building and content losses was gathered from the claims file provided by FEMA Region 2 (current as of the Borough of Bernardsville).
- (3) The policy locations used are based on the latitude and longitude provided by FEMA Region 2.

HAZUS-MH critical facility damage estimates for Bernardsville are provided below.

Critical Facility Damage Estimate										
Name	Municipality	Type	Exposure		Potential Loss from 1% Flood Event			Potential Loss from 0.2% Flood Event		
			1% Event	0.2% Event	Percent Structure Damage	Percent Content Damage	Days to 100-Percent ⁽¹⁾	Percent Structure Damage	Percent Content Damage	Days to 100-Percent ⁽¹⁾
Well 1	Bernardsville (B)	Potable Water	x	x	-	-	-	0.5	NA	NP

Source: HAZUS-MH 4.0

Notes:

- = No loss (calculated by HAZUS-MH 4.0)

X = Facility located within the DFIRM boundary.

DFIRM = Digital Flood Insurance Rate Map

NA = Not applicable

NP = Not provided by HAZUS

B = Borough

(1) HAZUS-MH 4.0 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 4.0 User Manual).

(2) Please note 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.

Please refer to the Hazard Profiles in Section 5 of this plan for additional vulnerability information relevant to this jurisdiction.

9.4.7 PROPOSED HAZARD MITIGATION INITIATIVES

The list below represents a summary of community mitigation initiatives developed in 2018 as part of the most recent plan update. The Borough of Bernardsville has carried forward 11 of its 2014 HMP initiatives, and has identified five new initiatives. The Borough reported no changes in local priorities since the last version of the plan in 2014. Detailed Action Worksheets are included only for NEW Mitigation Actions/Projects. Some of the identified mitigation initiatives in the table below 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.

Proposed Hazard Mitigation Initiatives														
2019 HMP Initiative Number	Initiative Name	Initiative Description	New Initiative or Carried Forward	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objective(s) Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	2018 Action Status
BV1	Install Emergency Generators and associated electrical infrastructure at emergency shelter locations throughout the Borough	Evaluate, determine system requirements, develop engineering plans and Install new emergency generators in shelters at 1. The Bernards High School, 2. The Bernardsville Middle School, 3. The Bedwell School and other identified emergency shelter locations in Bernardsville Borough to be used providing electricity to support Emergency Shelter Operations.	NEW (carrying forward components of the old BV28)	N/A	Severe Storm, Severe Winter Storm, Flood, Wildfire, Extreme Temps, Earthquake	2, 7	Bernardsville OEM Coordinator with support from Borough Engineering Staff and in cooperation with facility reps	High	High	Somerset Hills School District Funding, Borough Municipal Funds, unidentified charitable foundations	Two years from receipt of funding	H	PR, SP, ES	This is a new action that was identified as the result of a previous hazard mitigation initiative evaluating shelter capacity in the Borough.

Proposed Hazard Mitigation Initiatives

2019 HMP Initiative Number	Initiative Name	Initiative Description	New Initiative or Carried Forward	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objective(s) Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	2018 Action Status
BV2	Purchase, Equip and prepare a local OEM CART Trailer to support Emergency Shelter Operations	Bernardsville OEM currently has no facilities available to support CART operations during disasters. There is no viable CART component to our local shelter plan other than relying on limited mutual aid available from County OEM. The Bernardsville OEM would like to obtain this capability for the future but currently lacks funds and resources to do so.	NEW	N/A	Severe Storm, Severe Winter Storm, Flood, Wildfire, Extreme Temps, Drought, Earthquake	2	Office of Emergency Management Coordinator	M	M	Albert Schweitzer Animal Welfare Fund, ASPCA Grants, Federal Hazard Mitigation Grant Program (HMGP), Federal PDM Grant Program, Animal Disaster Funding.org, Petco Foundation, Pet Smart Charities, Doris Day Foundation	Six months from receipt of funding	M	ES	This is a new action that was identified as the result of a previous hazard mitigation initiative evaluating shelter capacity in the Borough.

Proposed Hazard Mitigation Initiatives

2019 HMP Initiative Number	Initiative Name	Initiative Description	New Initiative or Carried Forward	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objective(s) Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	2018 Action Status
BV3	Purchase, Equip and prepare a local OEM Shelter Support Trailer to support Emergency Shelter Operations and to store, transport and provide AFN shelter related equipment and support.	Bernardsville OEM has a viable shelter plan in place but has limited shelter supplies available to support shelter operations. The Red Cross recently terminated a local verbal agreement to support the local OEM Shelter in Bernardsville and removed a 100 person shelter support trailer from Bernardsville. Bernardsville lost the capability to provide equipment for 100 persons as a result of the Red Cross decision. Bernardsville has some shelter supplies stored at an offsite location that needs to be packed and transported to the shelter location with each shelter activation. Bernardsville would like to prepare a shelter trailer similar to the one used by Somerset County OEM to support shelter operations and mobilize shelter supplies in a more efficient manner.	NEW	N/A	Severe Storm, Severe Winter Storm, Flood, Wildfire, Extreme Temps, Drought, Earthquake	2	Office of Emergency Management Coordinator	H	M	Lions International Disaster Funding Grant, ADA Foundation, Bill and Melinda Gates Foundation, HMGP, PDM, FMA, Local Municipal Government Funding	Six months from receipt of funding	M	ES	This is a new action that was identified as the result of a previous hazard mitigation initiative evaluating shelter capacity in the Borough.

Proposed Hazard Mitigation Initiatives

2019 HMP Initiative Number	Initiative Name	Initiative Description	New Initiative or Carried Forward	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objective(s) Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	2018 Action Status
BV4	Nervine Pond Dam Improvements	Pursuant to NJDEP DAM Safety requirements, Analyze the dam for a much larger design storm with newer coefficients. Based on outcome of the analysis, "harden" an emergency spillway to protect the downstream side of the dam (from dam down to footbridge) with non-erosive treatment such as poured concrete. Anticipated time frame is that we will probably have to do design later this year for construction in either 2019 or 2020.	NEW	Existing	Severe Storm, Flood, Earthquake	4, 6, 7	Public Works Manager	H	H	Local Municipal budget, Local Budget, National Dam Safety Program, HMGP, PDM, FMA	Design - Late 2018; Construction 2019 - 2020	H	SP	This is a new action that was identified as the result of a previous hazard mitigation initiative evaluating shelter capacity in the Borough.
BV5	Nervine Pond Dam Maintenance	Pursuant to 2017 NJDEP Formal Dam Inspection the Borough needs to repair loose stones in the check dams in Mine Brook in the section below the main dam. We also need to remove some trees and woody vegetation on the embankment near the dam berm between the dam and the RR tracks.	NEW	Existing	Severe Storm, Flood, Earthquake	4, 6, 7	Public Works Manager	H	L	Local Budget, National Dam Safety Program, HMGP, PDM, FMA	Improvements to be completed by June 2018	H	SP	This is a new action that was identified as the result of a previous hazard mitigation initiative evaluating shelter capacity in the Borough.

Proposed Hazard Mitigation Initiatives

2019 HMP Initiative Number	Initiative Name	Initiative Description	New Initiative or Carried Forward	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objective(s) Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	2018 Action Status
BV6	Mine Brook Culvert at Municipal Complex	<p>Construct a culvert and/or bridge over Minebrook at Municipal Complex. The previous bridge washed away. This project was identified at the inception of the Somerset County Hazard Mitigation Program to replace an earthen dam- bridge and culvert over Mine Brook in the Municipal Complex. The purpose of which was to control flood waters and prevent further stream erosion and bridge deterioration while ensuring access to the Borough parking lot and DPW Storage area. This dam/bridge has since been washed away and as a result continued erosion will produce flood conditions that will impact on access to the main driveway of Borough Hall, the Police Dept., DPW and the operation of the Sanitary Sewer Waste Processing Plant.</p>	Carry Forward (BV2)	Existing	Flooding, Severe Storm	4, 6, 7	Borough of Bernardsville Engineering	H	H	FEMA Grant (Resources Required: Funding Engineering services for preliminary design work and cost estimates Funding Requested: Meetings with of FEMA and the NJ State Police Hazard Mitigation Unit determined project is not eligible for available funding programs.)	Short	M	SP	<p>Not initiated. No funding or resources available. Streambank erosion continues to be a problem. Responsibilities for this project have been transferred to Ferriero Engineering Inc. In furtherance of this objective OEM Coordinator Kevin Valentine met with expert officials from Montclair University, FEMA and the US Army 92 Battalion Civil Affairs Unit over the last two years to conduct a preliminary assessment of stream bank erosion along Mine Brook and identify possible funding sources for this project. The project is ongoing pending additional resource allocation, funding and further evaluation.</p>

Proposed Hazard Mitigation Initiatives

2019 HMP Initiative Number	Initiative Name	Initiative Description	New Initiative or Carried Forward	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objective(s) Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	2018 Action Status
BV7	Mine Brook Foot Bridge at Municipal Complex	Reconstruct and replace foot bridge over Mine Brook at Nervine Memorial Park. The bridge is in poor repair and constantly jams with debris during periods of heavy rain and causes flooding, soil erosion and damage to the bridge threatening damage to the nearby adjacent Municipal Building and parking lot.	Carry Forward (BV3)	Existing	Flooding, Severe Storm	4, 6, 7	Borough of Bernardsville Engineer	H	(Resources Required: Funding Engineering services for preliminary design work and cost estimates)	FEMA grant (Funding Requested: The Borough OEM has requested that the Engineering Department request funding in the 2013 Capital Budget.)	M	M	SP	Not initiated. Funding not available or allocated for this project. No Change. Project being carried over to new plan.
BV8	Where appropriate, support retrofitting and/or purchasing structure located in hazard prone areas.	Where appropriate, support retrofitting and/or purchasing structure located in hazard prone areas. Current properties under consideration include: 1. Bernardsville wastewater treatment plant (located in dam inundation area and currently experiencing bank scour and erosion.) 2. Bernardsville Borough Municipal Building Auxiliary Parking Lot and DPW Work Area.	Carry Forward (BV10)	Existing	Flooding, Severe Storm	4, 6, 7	Borough Engineer	High	High	HMGP, PDM, FMA	Long	M	PP	Not initiated. Lack of funding and resources to begin this project. On Going. No progress to report. Project being carried over to new plan. No Changes.

Proposed Hazard Mitigation Initiatives

2019 HMP Initiative Number	Initiative Name	Initiative Description	New Initiative or Carried Forward	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objective(s) Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	2018 Action Status
BV9	Construct Drainage Culvert at Entrance to Auxiliary Parking area at Municipal Building	Construct drainage culvert to prevent flooding and divert water away from flood prone back driveway to Borough Municipal Building Auxiliary Parking Lot and DPW Work Area that is rendered unusable due to continual flooding.	Carry Forward (BV12)	Existing	Flooding, Severe Storm	4, 6, 7	Borough Engineer	H1	H2	HMGP, PDM, FMA3	Long	M	SP ES	Not initiated. Lack of funding and resources to begin this project. No progress to report. Project being carried over to new plan. No Change.

¹ Completion of this project would restore use of the auxiliary Borough parking lot on the South side of Minebrook. The parking facility is currently not accessible at this time due to flooding from rising water tables.

² Resources Required: Funding; Engineering services for preliminary design work and cost estimates

³ Previous meetings to request funds with representatives of FEMA and the NJ State Police Hazard Mitigation Unit to seek funding have determined project is not eligible for available funding programs.

Proposed Hazard Mitigation Initiatives

2019 HMP Initiative Number	Initiative Name	Initiative Description	New Initiative or Carried Forward	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objective(s) Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	2018 Action Status
BV10	Work with regional agencies (i.e. County and NJOEM) to help develop damage assessment capabilities at the local level through such things as training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).	The BOEM EMC and LEPC are working to recruit, train and utilize a damage assessment team to work in conjunction with the SCOEM to initiate use of the Orion Damage Assessment Reporting System going into 2018. In 2016 the Bernardsville OEM Coordinator received training in Rapid Damage Assessment and attended the TTT Program for same.	Carry Forward (BV 19)	N/A	All Hazards	2	Municipality with support from County, NJOEM and FEMA	M	M	Municipal Budget, FEMA HMA and HLS grant programs	Short-Long Term DOF	M	PR	Continuing. This project was started but is not complete. Additional funding, training and resources are required. Project being carried over to new plan. In 2016 the Bernardsville OEM Coordinator received training in Rapid Damage Assessment and attended the TTT Program for same. Also BOEM is coordinating with SCOEM to initiate use of the Orion Damage Assessment Reporting System going into 2018. BOEM is attempting to identify individuals to serve on the Borough Damage Assessment Team.
BV11	Permit fee waivers	Implement permit fee waivers for installation of backup power for private property.	Carry Forward (BV22)	N/A	Severe Storm	9, 12	Borough Council	Medium	Low	Municipal Budget	Short	H	PR	Pending. No progress to report. Lack of coordination and resources. Project being carried over to new plan. No Progress to report.

Proposed Hazard Mitigation Initiatives														
2019 HMP Initiative Number	Initiative Name	Initiative Description	New Initiative or Carried Forward	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objective(s) Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	2018 Action Status
BV12	Mine Brook / Nervine Pond Streambank Erosion.	Mitigate, Repair and Prevent Streambank Erosion at Nervine Pond	Carry Forward (BV24)	Both	Flood, Severe Storm	2, 4, 6,7	Borough Engineer, DPW	M	M	Municipal budget, HMGP, PDM, FMA	DOF	M	SP	Not initiated. Funding and resources have not been made available. Attempts at securing grants previously have been unsuccessful. The flooding and stream bank erosion continues. Project being carried over to new plan. ⁴
BV13	Mine Brook Culvert at Old Quarry Road	Evaluate and repair or replace Culvert for Mine Brook under at Old Quarry Road.	Carry Forward (BV25)	Both	Flood, Severe Storm	4, 6, 7	Borough Engineer, DPW	M	M	Municipal budget, HMGP, PDM, FMA	DOF	M	SP	Not initiated. Lack of funding and resources to begin this project. Project being carried over to new plan. No change. The culvert remains in need of further evaluation and monitoring.

⁴ Streambank erosion continues to worsen with every rainstorm. With every rainstorm there is further and further deterioration of the stream bank directly adjacent to the Borough parking lot and very near the wastewater treatment plant. If this stream bank erosion is allowed to continue unabated it will not be long before the parking lot begins to collapse into the stream, access to the Borough parking lot will be cut off at the lower driveway and perhaps most importantly stream water will interfere with sewer plant operations or perhaps even flood the sewer plant. If there is continued erosion in the area of the wastewater treatment plant, the building and equipment will be compromised by floodwaters and perhaps even collapse into the Mine Brook. Previous storms such as Tropical Storm Floyd, Hurricane Irene, and Super Storm Sandy have taken a heavy toll on the banks of the Mine Brook. Continued serious erosion has been documented through various photographs and inspections conducted by Borough officials. Large area of the property at Borough Hall is no longer usable because access has been cut off. Previous storm damage has resulted in a culvert being washed out and the driveway on top of the Culvert being destroyed.

Proposed Hazard Mitigation Initiatives														
2019 HMP Initiative Number	Initiative Name	Initiative Description	New Initiative or Carried Forward	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objective(s) Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	2018 Action Status
BV14	Claremont Road Field House/ Animal Shelter Generator Project	The Borough OEM has identified several uses for this building during emergencies. They include an animal shelter in support of the Bernards High School Emergency Shelter which is not a pet friendly shelter, field operations office for command or emergency officials, and Medical POD, a first aid/triage treatment area, or a FEMA field office. Other uses for this building are also possible in support of emergency operations.	Carry Forward (BV27)	N/A	Flood, Severe Storm, Severe Winter Storm, Extreme Temps	2	Bernardsville OEM	M	M	Municipal Budget, HMGP, PDM, FMA, and HLS grant programs	DOF	M	ES	Project ongoing. Funding needs to be secured and more planning and political support is needed to make this happen. Project being carried over to new plan. Overall the condition of the building is in poor repair and will require additional funding to allow it to be used for OEM purposes.

Proposed Hazard Mitigation Initiatives

2019 HMP Initiative Number	Initiative Name	Initiative Description	New Initiative or Carried Forward	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objective(s) Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	2018 Action Status
BV15	Gasoline Storage/Distribution Facility Upgrades	Bernardsville has a gasoline storage facility located at the municipal complex. The facility consists of an above ground fuel holding tank and gasoline pump that is powered by electricity. A backup generator provides power during emergencies. The existing equipment is old and more importantly the storage capacity is very limited. ⁵	Carry Forward (BV30)	Existing	All	2	DPW/Bernardsville OEM	M	M	Municipal Budget, HMGP, PDM, FMA, and HLS grant programs	DOF	M	ES	Not initiated. Currently no funding or other resources available to start this project. Project being carried over to new plan. There is no change in the scope of the project.
BV16	Shelter Capability Assessment Procedures	ON GOING ACTIVITY. The BOEM Shelter Group is responsible to a continually assess town's ability to shelter residents in times of emergency and identify public facilities to provide heat/a-c, water during hazard events.	Carry Forward (BV5)	Existing	All	2	Borough OEM	M	M	Operating Budget	Long	M	PR, ES	Actions completed in the 2014-2019 plan maintenance window, but carrying forward as this is an ongoing activity.

⁵ The fuel tank requires constant refueling and if deliveries are interrupted the fuel supply for emergency vehicles is compromised. Contributing to this problem is the fact that this fuel site provides gasoline for all borough police cars, gas powered DPW and WWTP vehicles, equipment, and fire dept. vehicles, OEM equipment and Somerset Hills School District School Vehicles and maintenance vehicles. The capacity of this fuel storage site is simply not designed to support this amount of use. During Hurricane Sandy the Borough fuel supply was severely compromised when fuel simply was not available and extreme measures were taken to obtain fuel at another local private business site. There are no alternative fuel supply options currently available to the Borough, especially during times of emergency. This fuel supply is critical to emergency operations.

Proposed Hazard Mitigation Initiatives

2019 HMP Initiative Number	Initiative Name	Initiative Description	New Initiative or Carried Forward	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objective(s) Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	2018 Action Status
BV17	Evaluate participation in CRS	ONGOING ACTIVITY - This capability is under the responsibility of the Flood Plain Administrator. The Borough employs the services of Ferriero Engineering for Flood Plain Administration and CRS Program services. (Ferriero Engineering, Inc., 180 Main Street, P.O. Box 571, Chester, New Jersey, 07930 Phone: 908-879-6209)	Carry Forward (BV4)	Both	Flood, Severe Storm	12	Bernardsville Administrator /Floodplain Manager	M	M	Municipal Budget	Short	L	PR	Actions completed in the 2014-2019 plan maintenance window, but carrying forward as this is an ongoing activity.
BV18	Review, update, and maintain mutual aid agreements.	ON GOING ACTIVITY - The Borough OEMC, EMC and Borough Attorney are charged with the responsibility to review, recommend and revise revisions and updates to these agreements.	Carry Forward (BV6) (BV17)	Both	All	2, 3	OEM, Police Department, Fire Department	M	L	Municipal Budget	Short	H	PR, ES	Actions completed in the 2014-2019 plan maintenance window, but carrying forward as this is an ongoing activity.
BV19	Review, implement, and enforce town's policies and programs to prevent trees from threatening lives.	ON GOING ACTIVITY - The Shade Tree Committee is responsible to conduct this activity and has access to local municipal funds to conduct ongoing hazardous tree trimming and removal where needed.	Carry Forward (BV7)	Existing	All Hazards	10	Borough Code Enforcement	M	M	Operating Budget	Long	M	PR	Actions completed in the 2014-2019 plan maintenance window, but carrying forward as this is an ongoing activity.

Proposed Hazard Mitigation Initiatives														
2019 HMP Initiative Number	Initiative Name	Initiative Description	New Initiative or Carried Forward	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objective(s) Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	2018 Action Status
BV20	Participate in multi-jurisdictional update of Somerset County All Hazards Mitigation Plan	ON GOING ACTIVITY - The Borough has appointed a Hazard Mitigation Committee that manages and updates the plan under the direction of the OEM Coordinator and Borough Administrator.	Carry Forward (BV9) (BV20)	Both	All	All	Borough Emergency Management	H	M	Operating Budget	Long	H	PR	Actions completed in the 2014-2019 plan maintenance window, but carrying forward as this is an ongoing activity.

Proposed Hazard Mitigation Initiatives

2019 HMP Initiative Number	Initiative Name	Initiative Description	New Initiative or Carried Forward	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objective(s) Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	2018 Action Status
BV21	Public Awareness and Education Program	ON GOING ACTIVITY - The BOEM EMC and Hazard Mitigation Committee jointly assume the responsibility to facilitate community and public education outreach for residents and businesses using existing resources and personnel in the Borough. Activities include but are not limited to promoting hazard risk reduction information and preparedness information via the use of email notification systems, newsletters, Borough websites, public announcements, A.M. Radio, pamphlets and community presentations to better educate the public on flood insurance, the availability of mitigation grant funding, and personal natural hazard risk reduction measures.	Carry Forward (BV 14)	N/A	All	5	Municipality with support from Planning Partners, County Planning, NJOEM, FEMA	Medium	Medium	Municipal Budget, HMA programs with local or county match	Long	High	PE	Actions completed in the 2014-2019 plan maintenance window, but carrying forward as this is an ongoing activity.

Proposed Hazard Mitigation Initiatives

2019 HMP Initiative Number	Initiative Name	Initiative Description	New Initiative or Carried Forward	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objective(s) Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	2018 Action Status
BV22	Improve communication systems with funding and support from support from County, NJOEM and FEMA.	ON GOING ACTIVITY - Improve communication systems with funding and support from support from County, NJOEM and FEMA. The Borough OEM and Police Department are charged with this responsibility to maintain, expand and improve emergency communication capabilities in the Borough. Limited funding is available on an annual basis to facilitate these activities.	Carry Forward (BV 15)	N/A	All Hazards	13	Municipality with support from County, NJOEM and FEMA	M	M	Municipal Budget Somerset County	Short	M	ES PR	Actions completed in the 2014-2019 plan maintenance window, but carrying forward as this is an ongoing activity
BV23	Support ongoing updates of Comprehensive Emergency Management Plans	ON GOING ACTIVITY - The Bernardsville OEMC in cooperation with the EMC and LEPC is responsible to continually review, revise and maintain the Borough's Emergency Operations Plan using existing Local funding and resources. The Borough continually seeks available funding to support this initiative from County, State and Federal sources where available.	Carry Forward (BV 16)	Both	All Hazards	All	Municipality with support from County Emergency Management	Low	Low	Municipal Budget	Ongoing	High	PR	Actions completed in the 2014-2019 plan maintenance window, but carrying forward as this is an ongoing activity

Notes:

- * 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.

Acronyms and Abbreviations:

ARC	American Red Cross
DPW	Department of Public Works
FEMA	Federal Emergency Management Agency
HMA	Hazard Mitigation Assistance
HMP	Hazard Mitigation Proposal
N/A	Not applicable
NFIP	National Flood Insurance Program
NJOEM	New Jersey Office of Emergency Management
NOAA	National Oceanic and Atmospheric Administration
SCPD	Somerset County Planning Department
USACE	U.S Army Corp of Engineers
USGS	U.S. Geological Survey

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.

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
SRL =	Severe Repetitive Loss Grant Program

Timeline:

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

Notes (for Mitigation Type):

1. PR = Prevention: 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.
2. PP = Property Protection: 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.
3. PE = Public Education and Awareness: 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.
4. NR = Natural Resource Protection: 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.
5. SP = Structural Projects: 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.
6. ES = Emergency Services: 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.

- 7. Initiative= Initiatives are comprised of EVERYTHING your community wants to do or is doing in order to meet its mitigation goals. Initiatives include Capabilities, Actions and Projects.
- 8. Capability= Regulatory, administrative, technical, and fiscal staffing, tools and/or resources. Capabilities can be existing, or in need of further development/expansion.
- 8. Action/Project= Specific activities or projects that your community plans to undertake or is currently completing in order to achieve its long term mitigation goals. Actions/Projects can include, but are not limited to: structural projects, infrastructure projects, natural systems protection projects, or education and awareness programs.

9.4.8 PRIORITIZATION OF MITIGATION INITIATIVES

The table below summarizes the priority levels for each mitigation initiative, listed by number.

Prioritization of Mitigation Initiatives							
Initiative #	# of Objectives Met	Benefits	Costs	Do benefits equal or exceed costs? (Yes or No)	Is project Grant eligible? (Yes or No)	Can project be funded under existing programs/budgets? (Yes or No)	Priority (High, Med., Low)
BV1	2	High	High	Y	Y	N	H
BV2	1	M	M	Y	Y	N	M
BV3	1	H	M	Y	Y	N	M
BV4	3	H	H	Y	Y	N	H
BV5	3	H	L	Y	Y	N	H
BV6	3	H	H	Y	Y	N	M
BV7	3	H	M	Y	Y	N	M
BV8	3	M	M	Y	Y	N	H
BV9	3	H	H	Y	Y	N	M
BV10	2	M	M	Y	N	Y	M
BV11	2	M	L	Y	N	Y	H
BV12	4	M	M	Y	Y	N	M
BV13	3	M	M	Y	Y	N	M
Bv14	1	M	M	Y	Y	N	M
BV15	1	M	M	Y	Y	N	M
BV16	1	M	M	Y	Y	N	M
BV17	1	L	L	Y	Y	N	L
BV18	2	M	M	Y	Y	N	H
BV19	1	M	M	Y	Y	N	M
BV20	All	H	M	Y	Y	Y	H
BV21	1	M	M	Y	Y	Y	H
BV22	1	M	M	Y	N	N	M
BV16	All	L	L	Y	N	Y	M

Notes:

H = High

N = No

L = Low

Y = Yes

M = Medium

N/A = Not applicable

9.4.8.1 Explanation of Priorities

Explanations of priority classifications used to assess the mitigation initiatives described in this annex are presented below:

High Priority = A project that meets multiple objectives (i.e., multiple hazards), where potential benefits exceed the costs. High-priority projects have funding secured or are on-going projects that meet eligibility requirements for the Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation (PDM) Grant Program. High-priority projects can be completed in the short term (1 to 5 years).

Medium Priority = A project that meets goals and objectives, where the potential benefits outweigh the costs. Funding for medium-priority projects has not been secured but these projects are eligible for grants under HMGP, PDM, or other grant programs. These projects can be completed in the short term, once funding is completed. Medium-priority projects will become high-priority projects once funding is secured.

Low Priority = A project that will mitigate the risk of a hazard, where the potential benefits do not exceed the costs or have benefits that are difficult to quantify. Funding for low-priority projects has not been secured and these projects are not eligible for HMGP or PDM grant funding. The timeline for completion is considered long term (1 to 10 years). Low-priority projects may be eligible other sources of grant funding from other programs. A low-priority project could become a high-priority project once funding is secured as long as it could be completed in the short term.

Was prioritization of initiatives based on the above definitions? Yes

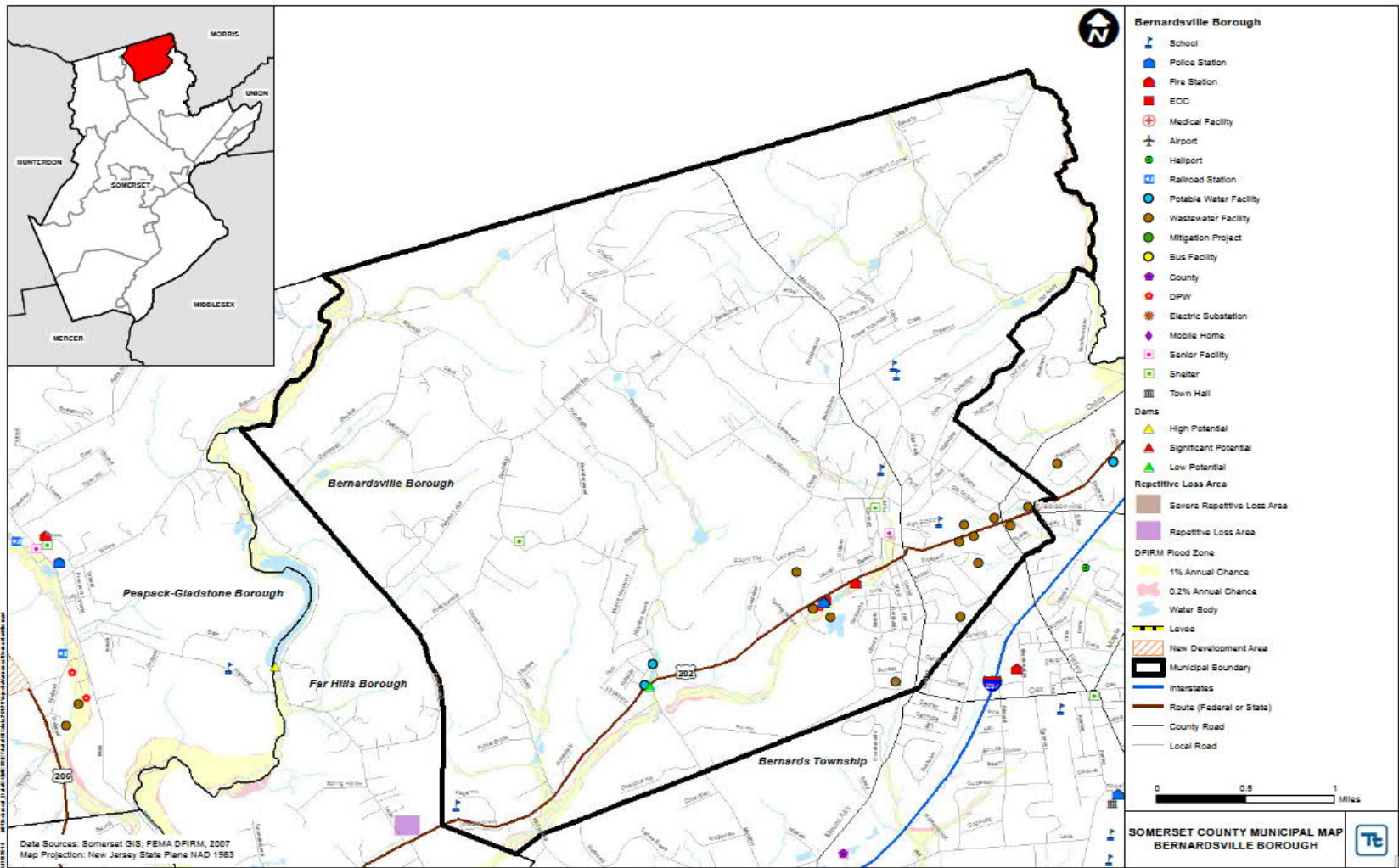
Was prioritization of initiatives based on parameters other than those stated above? Not applicable

9.4.9 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

Borough of Bernardsville has no additional risk vulnerabilities that need to be addressed at this time.

9.4.10 HAZARD AREA EXTENT AND LOCATION

A hazard area extent and location map illustrating the probable areas impacted within the Borough of Bernardsville is provided on the following page. This map is based on the best data available at the time of the preparation of this plan, and is 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 Borough of Bernardsville has significant exposure. The planning area maps are provided in the hazard profiles within Section 5.4 of this plan.



9.4.11 STATUS OF INCORPORATION OF MITIGATION PLANNING INTO EXISTING AND FUTURE PLANNING MECHANISMS

It is the intention of Bernardsville to incorporate mitigation planning as an integral component of daily municipal operations. The following table contains a list of planning mechanisms that have been utilized during prior plan maintenance cycles, and those that will be incorporated into municipal procedures during the upcoming plan maintenance cycle (2019-2024).

In addition to Section 2-43 "Office Of Emergency Management", of the Borough Code, which makes a number of references to mitigation and The County Office of Emergency Management, The Land Development Code, although it may not make direct reference to County Hazard Mitigation Plan, does contain rather elaborate provisions regarding "Floodplain And Watercourse Regulations" (14-4) & "The Flood Damage Prevention Ordinance" (14-5). Of the two, 14-5 is more recent. Details of both Codes are available in the Borough Code Book.

Status of Incorporation of Mitigation Planning into Existing and Future Planning Mechanisms				
Planning Mechanisms	Reported Utilization (2009-2014)	Planned Utilization (2014-2019)	Reported Utilization (2014-2019)	Planned Utilization (2019-2024)
Operating Budget When constructing upcoming budgets, hazard mitigation actions will be funded as budget allows. Construction projects will be evaluated to see if they meet the hazard mitigation goals and objectives.	X	X	X	X
Capital Improvement Budget When constructing upcoming budgets, hazard mitigation actions will be funded as budget allows. Construction projects will be evaluated to see if they meet the hazard mitigation goals and objectives.	X	X	X	X
Human Resource Manual Employee job descriptions may contain hazard mitigation actions.		X		X
Building and Zoning Ordinances Prior to land use, zoning changes, or development permitting, the municipality will review the hazard mitigation plan and other hazard analyses to ensure consistent and compatible land use.	X	X	X	X
Comprehensive Land Use Plan When applicable, the municipality will incorporate hazard mitigation actions in the development and extent of the regulations.	X	X	X	X
Grant Applications Data and maps will be used as supporting documentation in grant applications.	X	X		x
Municipal Ordinances When updating municipal ordinances, hazard mitigation will be a priority.	X	X		X
Fire Plan The Hazard Mitigation Plan will be used as a resource for the development of future Fire Plans.		X		X
Capital Improvement Planning The municipality will establish a protocol to review current and future projects for hazard vulnerability. The municipality will incorporate hazard-resistant		X		X

Status of Incorporation of Mitigation Planning into Existing and Future Planning Mechanisms				
Planning Mechanisms	Reported Utilization (2009-2014)	Planned Utilization (2014-2019)	Reported Utilization (2014-2019)	Planned Utilization (2019-2024)
construction standards into the design and location of projects.				
Day-to-Day Operations The municipality will incorporate hazard mitigation actions in daily operations and all projects.		X		X
Local School Service Projects The municipality will work closely with the local school district and assist with community service projects for the service organizations. Several of the municipality's hazard mitigation actions can be implemented as a joint project with the school district.		X		X
Municipal Budget Adopted annually, the municipality will look at mitigation actions when allocating funding.	X	X	X	X
Economic Development The local economic development group will take into account information regarding identified hazard areas when assisting new businesses in finding a location.	N/A*	N/A*	N/A*	N/A*

* Bernardsville does not have a local economic development group

9.4.12 ADDITIONAL COMMENTS

There are no additional comments at this time.

9.4.12 NFIP ADMINISTRATOR INPUT

The Township provided the following NFIP Administrator Input in 2018, for inclusion in the 2019 HMP.

Adoption Date of your Current Floodplain Management Ordinance	Date of Entry into NFIP ¹	Position or Title of Your Jurisdiction's Designated Floodplain Manager/Administrator (may also be called NFIP Coordinator)			Is this person is a Certified Floodplain Manager?	Is floodplain management an auxiliary function?	Is your community in good standing with the NFIP?
2018	3/1/78	Borough Engineer			[X] Yes [] No	[X] Yes [] No	[X] Yes [] No
Provide an explanation of NFIP administration services (i.e., permit review, GIS, education or outreach, inspections, engineering capability, etc.):							
Projects are reviewed for potential floodplain impacts and applicants are advised of the proper permit process. The Borough has also worked with residents on Letters of Map Amendment (LOMAs)							
Describe barriers to running an effective NFIP program in the community (if applicable):							
As with any municipality, Bernardsville has significant funding constraints and it is difficult to prioritize additional flood plain management activities over other essential services.							
When was most recent FEMA Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?*	Is a CAV or CAC scheduled or needed?	Does the current floodplain management ordinance exceed FEMA or State minimum requirements? If so, describe how.	Is training of staff regarding NFIP issues planned?	Does your community intend to continue to enforce the floodplain management requirements including regulating new construction in Special Flood Hazard Areas (SFHAs)?	Does your community participate in the CRS? If so, state your Class.	Does your community intend to continue its participation in the CRS program?	If your community is not currently participating in the CRS program, are you intending to initiate the process during the next planning cycle?
Unknown	[] Yes [X] No	[] Yes [X] No	[] Yes [X] No	[X] Yes [] No	[] Yes* [X] No * Class ____	[] Yes [X] No	[] Yes [X] No
*Describe any outstanding compliance issues (i.e., current violations):							

Provide an explanation of your local floodplain permitting process:								
Plan review at subdivision/site plan stage and individual lot development plan submittal. Ensure compliance with Flood Damage Prevention Ordinance								
Does your community intend to continue floodplain identification and mapping services including any local requests for map updates?	Does your community intend to initiate/continue the buyouts of repetitive loss properties?	Does your community intend to commit staff or resources to improve local mapping or code administration in the future?	Does your community intend to provide local outreach to promote the sale of flood insurance?	Does your community intend to participate in RiskMAP meetings and planning initiatives?	Does your community intend to continue to implement structural improvements to mitigate against flooding - culverts, drainage basins, etc.?	Does your community intend to continue to implement home improvement programs designed to minimize basement flooding?	Does your community intend to continue to implement roadway improvements to reduce damage from future flooding events?	Does your community intend to implement plans and programs in coordination with a local or regional drainage/sewer authority?
[X] Yes [] No	[] Yes [X] No	[] Yes [X] No	[] Yes [X] No	[] Yes [X] No	[X] Yes [] No	[] Yes [X] No	[X] Yes [] No	[] Yes [X] No
Does your community intend to adopt the new FEMA Advisory Base Flood Elevations?		As Floodplain Manager, did you (or your predecessor at the time) actively participate in the development of the initial Hazard Mitigation Plan?		As Floodplain Manager, are you actively participating in the development of this Hazard Mitigation Plan Update?		Have there been any changes to your community's local floodplain management program since the last version of the plan in 2009?		
[] Yes [X] No		[X] Yes [] No		[X] Yes [] No		[] Yes * [X] No		
* If you answered "yes", that there have been changes to your local program since 2009, please describe:								
Provide a description of your community assistance and monitoring activities:								
We provide guidance in response to resident inquiries regarding flood plains and flooding.								
NFIP participating communities are required to update/revise their floodplain management ordinance to ensure that it complies with the latest FEMA regulations. Will your community continue to commit to this program requirement?				NFIP participating communities are also required to update/revise their floodplain management ordinance to be consistent with the latest FIRM's. Will your community continue to commit to this program requirement?				
[X] Yes [] No				[X] Yes [] No				