

## Upper Milford Township, Lehigh County Annex

### Hazard Mitigation Plan Points-of-Contact

#### Primary:

Edward Carter  
Assistant Manager  
5671 Chestnut Street, P.O. Box 210, Old Zionsville, PA 18068  
610-966-3223  
ecarter@uppermilford.net

#### Alternate:

Brain Miller  
Planning Coordinator  
5671 Chestnut Street, P.O. Box 210, Old Zionsville, PA 18068  
610-966-3223  
bmiller@uppermilford.net

### Municipal Profile

Upper Milford Township is a mixed-use community ranging from residential suburban areas adjacent to the Borough of Emmaus to rural residential areas along the easterly and southerly portions of the Township. Inter disbursed within the Township are several small village areas containing higher density population centers. The major village areas are Vera Cruz, Shimerville, Old Zionsville and Zionsville. Upper Milford Township is bordered by; Emmaus Borough, Salisbury Township and Upper Saucon Township to the north; Lower Milford Township to the east; Montgomery and Berks Counties to the south; and Lower Macungie Township and Macungie Borough to the west. The area of the Township is approximately 18.5 square miles with a population of 7,292 (2010 Census).

The South Mountain is the predominant physical feature within the Township running north-south direction and bisecting the Township.

Sitting on the South Mountain, the Township is located within three major watersheds. The Little Lehigh Creek on the westerly and central Vera Cruz village area of the Township, the Perkiomen Creek area consisting of the southerly and easterly portions of the Township, and the Saucon Creek water shed which is a relatively small headwater area located in the northeasterly portion of the Township. Due to predominately being in the headwater areas of the watersheds, flooding is minimal and significant only when rainfall intensity is over 2.5 inches per hour. Significant areas of the Township are heavily wooded and steeply sloped making many portions of the Township susceptible to winter storm and hurricane events, which result in lengthy power outages and road closures.

The main transportation routes passing through Upper Milford Township are PA Route 100 and Route 29. The Pennsylvania Turnpike (I-476) also passes through the Township but does not have any public access points located within the township. To a lesser degree (State Route 2023), Saint Peters Road, Shimerville Road, Main Road East and Main Road West and Brunner Road provide east-west access through the township. The township is also generally accessed from the Emmaus area via Pennsylvania Avenue and Vera Cruz Road and South 5<sup>th</sup> Street.

**Municipal Participation**

- 1. Identify municipal stakeholders to be involved in the planning process such as, floodplain administrator, public works, emergency management, engineers, planners, etc., and include their specific role in the process.

Brian Miller, Planning Coordinator Role: Updating the plan	Edward Carter, Assistant Township Manager Role: Updating the plan
Brent Fegley, Public Works Foreman Role: Informing use on field hazards	Alan Brokate, Zoning Officer Role: Compliance of zoning

- 2. Identify community stakeholders such as; neighborhood groups, religious groups, major employers / businesses, etc., that will be informed and / or involved in the planning process and describe how they will be involved.

Buckeye Pipelines

- 3. Describe how the public **will be engaged** in the current planning process examples, newsletters, social media, etc., **and how they were engaged** since the 2013 Hazard Mitigation Plan.

Upcoming newsletters and website

**Compliance with the National Flood Insurance Program (NFIP)**

Topic	Identify source of information, if different from the one listed.	Additional Comments
<b>1. Staff Resources</b>		
Is the Community Floodplain Administrator (FPA) or NFIP Coordinator certified?	Community FPA	No
Is floodplain management an auxiliary function?	Community FPA	Yes
Provide an explanation of NFIP administration services (e.g., permit review, GGIS, education or outreach, inspections, engineering capability)	Community FPA	Township Code Enforcement officer / Zoning officer
What are the barriers to running an effective NFIP program in the community, if any?	Community FPA	
<b>2. Compliance History</b>		
Is the community in good standing with the NFIP?	State NFIP Coordinator, FEMA NFIP Specialist, or community records	
Are there any outstanding compliance issues (i.e., current violations)?		No
When was the most recent Community Assistance Visits (CAV) or Community Assistance Contact (CAC)?		Don't know
Is a CAV or CAC scheduled or needed?		No

**Compliance with the National Flood Insurance Program (NFIP) – *continued***

Topic	Identify source of information, if different from the one listed.	Additional Comments
<b>3. Regulation</b>		
When did the community enter the NFIP?	NFIP Community Status Book	11/1/1974
Are the Flood Insurance Rate Maps (FIRMs) digital or paper? How are residents assisted with mapping?	Community FPA	Digital
Do floodplain regulations meet or exceed FEMA or State minimum requirements? If so, in what ways?	Community FPA	Meets
Describe the permitting process	Community FPA, State, FEMA NFIP	Building inspector reviews plans
<b>4. Insurance Summary</b>		
How many NFIP policies are in the community? What is the total premium and coverage?	State NFIP Coordinator or FEMA NFIP Specialist	
How many claims have been paid in the community? What is the total amount of paid claims? How many substantial damage claims have there been?	FEMA NFIP or Insurance Specialist	
How many structures are exposed to flood risk within the community?	Community FPA or GIS Analyst	
Describe any areas of flood risk with limited NFIP policy coverage	Community FPA or FEMA Insurance Specialist	
<b>5. Community Rating System (CRS)</b>		
Does the community participate in CRS?	Community FPA, State, or FEMA NFIP	No
If so, what is the community's CRS Class Ranking?	Flood Insurance Manual ( <a href="http://www.fema.gov/floodinsurancemanual.gov">http://www.fema.gov/floodinsurancemanual.gov</a> )	
What categories and activities provide CRS points and how can the Class be improved?		
Does the plan include CRS planning requirements?	Community FPA, FEMA CRS Coordinator, or ISO representative	

**Community Assets**

Community assets are defined to include anything that is important to the character as well as the function of a community, and can be described in four categories, they are; people, economy, natural environment and built environment. Please identify the community assets and location under each category.

**1. People**

- Concentrations of vulnerable populations such as the elderly, physically or mentally disabled, non-English speaking, and the medically or chemically dependent.
- Types of visiting populations where large numbers of people are concentrated such as visitors for special events and students.

**Community Assets – continued**

**2. Economy**

Major employers, primary economic sectors such as agriculture and commercial centers where losses would have a severe impact on the community.

**3. Natural Environment**

Those areas / features that can provide protective functions that reduce the magnitude of hazard events such as, wetlands or riparian areas, and other environmental features important to protect.

Wetlands along Leibert Creek, Indian Creek, Perkiomen Creek and Hosensack Creek

**4. Built Environment**

- Existing structures such as, concentrations of buildings that may be more vulnerable to hazards based on location, age, construction type and / or condition of use.
- Infrastructure systems such as water and wastewater facilities, power utilities, transportation systems, communication systems, energy pipelines and storage.
  - Buckeye pipelines and storage tanks
  - Power lines
- High potential loss facilities such as, dams, locations that house hazardous materials, military and / or civilian defense installations.
- Critical facilities such as, hospitals, medical facilities, police and fires stations, emergency operations centers, shelters, schools and airports / heliports.
- Cultural / historical resources such as, museums, parks, stadiums, etc.

**Capability Assessment**

Capability	✓ Regulatory ✓ Tools ✓ Programs	Status			Department / Agency Responsible	Effect on Hazard Loss Reduction: -Supports -Neutral -Hinders	Change since 2013 Plan? + Positive - Negative	Has the 2013 Plan been integrated into the Regulatory Tool/Program ? If so, how?	How can these capabilities be expanded and improved to reduce risk?	Additional Comments
		In Place	Date Adopted or Updated	Under Development						
1. Planning & Regulatory	Comprehensive Plan	X	5/19/2005		Zoning/ Planning	S				
	Capital Improvement Plan									
	Economic Development Plan									
	Continuity of Operations Plan									
	Stormwater Management Plan / Ordinance	X	12/29/2010		Zoning	S				
	Open Space Management Plan (or Parks/Rec., Greenways Plan)	X	2008		Zoning/ Planning	S				
	Natural Resource Protection Plan	X	3/18/2010		Zoning	S				
	Transportation Plan									
	Historic Preservation Plan									
	Floodplain Management Plan									
	Farmland Preservation	X	3/18/2010		Zoning	S				
	Evacuation Plan									
	Disaster Recovery Plan									
	Hazard Mitigation Plan	X	1/1/2006		County	S				
	Emergency Operations Plan	X	5/27/2005		Township Board of Supervisors	S				
	Zoning Regulations	X	3/18/2010		Zoning/ Planning	S				
	Floodplain Regulations	X	3/18/2010		Zoning	S				
	NFIP Participation	X	2004							
Building Code	X	2009								
Fire Code										
Other										

**Capability Assessment – continued**

Capability	✓ Staff ✓ Personnel ✓ Resources			Department / Agency	Change since 2013 Plan? + Positive - Negative	How can these capabilities be expanded and improved to reduce risk?	Additional Comments
		Yes	No				
2. Administrative & Technology	Planners (with land use / land development knowledge)	X		Planning	No		
	Planners or engineers (with natural and / or human-caused hazards knowledge)	X		Township Engineer consultant	No		
	Engineers or professionals trained in building and / or infrastructure construction practices (including building inspectors)	X		Building depart 3rd party consultant	No		
	Emergency Manager	X		Emergency Management Coordinator	No		
	Floodplain administrator / manager	X		Zoning	No		
	Land surveyors	X		Township Engineer consultant	No		
	Staff familiar with the hazards of the community	X		Public Works	No		
	Personnel skilled in Geographical Information Systems (GIS) and / or FEMA's HAZUS program	X		Planning/Zoning	No		
	Grant writers or fiscal staff to handle large / complex grants	X		General administration w/ consultant if needed	No		
	Other						

**Capability Assessment – continued**

Capability			Department / Agency	Change since 2013 Plan? + Positive - Negative	How can these capabilities be expanded and improved to reduce risk?	Additional Comments
	Yes	No				
<b>3. Financial Resources</b>	Capital improvement programming	X		General Administration	No	
	Community Development Block Grants (CDBG)	X		General Administration	No	
	Special purposes taxes	X		General Administration	No	
	Gas / Electricity utility fees		X	N/A	No	
	Water / Sewer fees		X	Lehigh County Authority	No	
	Stormwater utility fees		X	N/A	No	
	Development impact fees	X		General Administration	No	
	General obligation, revenue, and / or special tax bonds	X		General Administration	No	
	Partnering arrangements or intergovernmental agreements	X		General Administration & Public Works	No	
	Other					

**Capability Assessment – continued**

Capability	✓ Program ✓ Organization	Yes	No	Department / Agency	Change since 2013 Plan? + Positive - Negative	How can these capabilities be expanded and improved to reduce risk?	Additional Comments
4. Education & Outreach	Firewise Communities Certification		X				
	StormReady Certification		X				
	Natural disaster or safety-related school programs		X				
	Ongoing public education or information programs such as, responsible water use, fire safety, household preparedness, and environmental education.	X		Environmental Advisory Council			
	Public-private partnership initiatives addressing disaster related issues.		X				
	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	X		Environmental Advisory Council			
	Other						

Capability		Degree of Capability			Change since the 2013 Hazard Mitigation Plan? If so, how?	Additional Comments
		Limited	Moderate	High		
5. Self – Assessment	Planning and Regulatory		X			
	Administrative and Technical		X			
	Financial		X			
	Education and Outreach		X			



**Known or Anticipated Future Development / Redevelopment**

Development / Property Name	Type of Development	Number of Structures	Location	Known Hazard Zone	Description / Status
Fields at Indian Creek	55 and Over Community	176 houses	Between Indian Creek and Chestnut Street	Flooding on Indian Creek Road	
Fields at Jasper Ridge	Twins & Townhomes	44 twins/ 79 townhomes	Between West Minor Street and Mink Road		
Maple Ridge	Single House	42 houses	Off Main Road West		

**Natural & Non-Natural Event History Specific to Upper Milford Township**

Type of Event and Date(s)	FEMA Disaster # (if applicable)	Local Damage(s) or Loss(es)
Winter Storm Jonas – 1/2016	DR-4267-PA	
Pennsylvania COVID-19 Pandemic – 1/2020	DR-4506-PA	Emergency Protective measures to combat COVID-19 Pandemic.

**2013 Municipal Action Plan Status**

Existing Mitigation Action (from 2013 Hazard Mitigation Plan)		Status					Additional Comments
		No Progress / Unknown	In Progress	Continuous	Completed	Discontinued	
1	Work along with electric utility to improve electric utility primary and secondary line clearing.	X					
2	Maintain an adequate fleet of vehicles and equipment to handle anticipated emergency response.			X			
3	Retrofit (e.g. elevate, flood-proof) structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Specifically identified are the following: - Residences on Chestnut Street between Batman and Toll Gate Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined to be a viable option, work with property owners toward implementation of that action based on available funding from FEMA and local match availability.	X					
4	Purchase, or relocate structures located in hazard- prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Specifically identified are the following: - Residences on Chestnut Street between Batman and Toll Gate Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting. Phase 2: Where relocation is determined to be a viable option, work with property owners toward implementation of that action based on available funding from FEMA and local match availability.	X					
5	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 below.			X			

**2013 Municipal Action Plan Status – continued**

Existing Mitigation Action (from 2013 Hazard Mitigation Plan)		Status					Additional Comments
		No Progress / Unknown	In Progress	Continuous	Completed	Discontinued	
6	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: Provide and maintain links to the HMP website, and regularly post notices on the /municipal homepage(s) referencing the HMP webpages. Prepare and distribute informational letters to flood vulnerable property owners and neighborhood associations, explaining the availability of mitigation grant funding to mitigate their properties, and instructing them on how they can learn more and implement mitigation. 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. Work with neighborhood associations, civic and business groups to disseminate information on flood insurance and the availability of mitigation grant funding.			X			
7	Begin the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements).			X			
8	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.	X					
9	Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.	X					
10	Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This shall start with the submission to FEMA-DHS of a Letter of Intent to join CRS, followed by the completion and submission of an application to the program once the community's current compliance with the NFIP is established.	X					
11	Archive elevation certificates		X				
12	Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0			X			
13	Complete the ongoing updates of the Comprehensive Emergency Management Plans			X			
14	Create/enhance/maintain mutual aid agreements with neighboring communities for continuity of operations.		X				

**2013 Municipal Action Plan Status – continued**

Existing Mitigation Action (from 2013 Hazard Mitigation Plan)		Status					Additional Comments
		No Progress / Unknown	In Progress	Continuous	Completed	Discontinued	
15	Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters; qualified damage assessment personnel – Improve post-disaster capabilities – damage assessment; FEMA/PEMA paperwork compilation, submissions, record-keeping	X					
16	Work with regional agencies (i.e. County and PEMA) 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).	X					

**Notes:**

1. Actions not carried through to the 2018 Action Plan are so noted.
2. To maintain National Flood Insurance Program (NFIP) compliance, actions related to the NFIP were carried through to the 2018 Action Plan even if identified by the municipality as completed.

**2018 Mitigation Action Plan**

Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
1	Work along with electric utility to improve electric utility primary and secondary line clearing.	Structure & Infrastructure	Windstorm/ Tornado, Winter Storm, Utility Interruption	High	Medium	Private Sector, Municipal Budget	Township, working with electric utilities	Short Term	Existing
2	Maintain an adequate fleet of vehicles and equipment to handle anticipated emergency response.	Structure & Infrastructure	All Hazards	High	High	Municipal Budget; Homeland Security Grant and public protection emergency services grant programs	Municipality	On-going	N/A
3	Retrofit (e.g. elevate, flood-proof) structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Specifically identified are the following: - Residences on Chestnut Street between Batman and Toll Gate Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined to be a viable option, work with property owners toward implementation of that action based on available funding from FEMA and local match availability.	Structure & Infrastructure	Flood	High	High	FEMA Mitigation Grant Programs and local budget (or property owner) for cost share	Municipality (via Municipal Engineer/NFIP Floodplain Administrator) with support from PEMA, FEMA	Long Term DOF	Existing

**2018 Mitigation Action Plan – continued**

Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
<b>4</b>	<p>Purchase, or relocate structures located in hazard- prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Specifically identified are the following:                      - Residences on Chestnut Street between Batman and Toll Gate</p> <p>Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting.                      Phase 2: Where relocation is determined to be a viable option, work with property owners toward implementation of that action based on available funding from FEMA and local match availability.</p>	Structure & Infrastructure	Flood	High	High	FEMA Mitigation Grant Programs and local budget (or property owner) for cost share	Municipality (via Municipal Engineer/NFIP Floodplain Administrator) with support from PEMA, FEMA	Long Term DOF	Existing
<b>5</b>	<p>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 below.</p>	Local plans & Regulations	Flood	High	Low - Medium	Municipal Budget	Municipality (via Municipal Engineer/NFIP Floodplain Administrator) with support from PEMA, ISO FEMA	On-going	New & Existing

**2018 Mitigation Action Plan – continued**

Mitigation Action	Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
<p><b>6</b> 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: Provide and maintain links to the HMP website, and regularly post notices on the /municipal homepage(s) referencing the HMP webpages. Prepare and distribute informational letters to flood vulnerable property owners and neighborhood associations, explaining the availability of mitigation grant funding to mitigate their properties, and instructing them on how they can learn more and implement mitigation. 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. Work with neighborhood associations, civic and business groups to disseminate information on flood insurance and the availability of mitigation grant funding.</p>	<p>Education &amp; Awareness</p>	<p>All Hazards</p>	<p>High</p>	<p>Low-Medium</p>	<p>Municipal Budget</p>	<p>Municipality with support from Planning Partners, PEMA, FEMA</p>	<p>Short Term</p>	<p>N/A</p>
<p><b>7</b> Begin and/or continue the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements).</p>	<p>Local plans &amp; Regulations</p>	<p>Flood</p>	<p>High</p>	<p>Low</p>	<p>Municipal Budget</p>	<p>Via Municipal Engineer / NFIP Floodplain Admin. w/ support from PEMA, FEMA</p>	<p>Short Term</p>	<p>New &amp; Existing</p>

**2018 Mitigation Action Plan – continued**

Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
8	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.	Local plans & Regulations	Flood	Medium	Low	Municipal Budget	NFIP Floodplain Administrator with support from PA DEP, PEMA, FEMA	Short Term	N/A
9	Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM and/or pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.	Local plans & Regulations	Flood	High	Low	Municipal Budget	NFIP Floodplain Administrator	Short Term DOF	N/A
10	Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This shall start with the submission to FEMA-DHS of a Letter of Intent to join CRS, followed by the completion and submission of an application to the program once the community's current compliance with the NFIP is established.	Local plans & Regulations	Flood	Medium	Low	Municipal Budget	NFIP Floodplain Administrator with support from PA DEP, PEMA, FEMA	Short Term	N/A
11	Obtain and archive elevation certificates for NFIP compliance.	Local plans & Regulations	Flood	High	Low	Municipal Budget	NFIP Floodplain Administrator	On-going	N/A
12	Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0	All Categories	All Hazards	High	Low – High (for 5-year update)	Municipal Budget, possibly FEMA Mitigation Grant Funding for 5-year update	Municipality (via mitigation planning point of contacts) with support from Planning Partners (through their Points of Contact), PEMA	On-going	New & Existing



**2018 Mitigation Action Plan – continued**

Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
13	Complete the ongoing updates of the Comprehensive Emergency Management Plans	Local plans & Regulations	All Hazards	High	Low	Municipal Budget	Municipality with support from PEMA	On-going	New & Existing
14	Create/enhance/maintain mutual aid agreements with neighboring communities for continuity of operations.	All Categories	All Hazards	High	Low	Municipal Budget	Municipality with support from surrounding municipalities and County	On-going	New & Existing
15	Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters; qualified damage assessment personnel – Improve post-disaster capabilities – damage assessment; FEMA/PEMA paperwork compilation, submissions, record-keeping	Education & Awareness	All Hazards	Medium	Medium	Municipal budget	Municipality with support from County, PEMA, FEMA	Short Term	N/A
16	Develop and maintain capabilities to process FEMA/PEMA paperwork after disasters; qualified damage assessment personnel – Improve post-disaster capabilities – damage assessment; FEMA/PEMA paperwork compilation, submissions, record keeping.	Education & Awareness	All Hazards	Medium	Medium	Municipal budget, FEMA HMA grant programs	Municipality with support from County, PEMA	Short Term DOF	N/A

**Notes:**

**Estimated Costs:**

- Where actual project costs have been reasonable 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.

**Potential Funding (FEMA HMA):**

- **BRIC** = Building Resilient Infrastructure and Communities
- **FMA** = Flood Mitigation Assistance Grant Program
- **HMGP** = Hazard Mitigation Grant Program
- **HSGP** = Homeland Security Grant Program
- **EMPG** = Emergency Management Performance Grant

**Implementation Schedule:**

- **Short Term** = 1 to 5 years
- **Long Term** = 5 years or greater
- **DOF** = Depending on Funding

**Applies to New and/or Existing Structures:**

- **N/A** = Not Applicable