

HAZARD MITIGATION PLAN POINTS OF CONTACT

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Capability	Area	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			

Capability Assessment – Lehigh County

Capability	Area	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				

Capability Assessment – Northampton County

Hazard Risk	Natural Hazards	Probability	Impact	Extent	Warning	Duration	Risk Factor
HIGH	Extreme Temperature	3	3	3	1	3	2.8
	Flood	4	2	2	3	3	2.8
	Winter Storm	3	2	4	2	2	2.7
	Windstorm/Tornado	2	3	3	3	2	2.6
	Invasive Species	4	1	3	1	4	2.6
	Drought	2	2	4	1	4	2.5
MODERATE	Pandemic and Infectious Disease	3	2	2	1	4	2.4
	Radon	4	1	2	1	4	2.4
	Subsidence/Sinkhole	3	2	1	4	1	2.2
	Wildfire	2	2	2	3	2	2.1
	Lightning	4	1	1	3	1	2.1
LOW	Earthquake	1	1	4	4	1	1.9
	Hailstorm	2	1	2	3	1	1.7
	Landslide	1	1	1	4	1	1.3

	Non-Natural Hazards						
HIGH	Environmental Hazards/Explosion	4	2	2	4	2	2.8
	Utility Interruption	3	1	3	4	3	2.5
	Drug Overdose Crisis	4	2	1	1	4	2.5
MODERATE	Fire (Urban/Structural)	3	2	1	4	2	2.3
	Transportation Crash	4	1	1	4	1	2.2
	Structural Collapse	2	3	1	4	1	2.2
	Civil Disturbance/ Mass Gathering	4	1	1	2	2	2.1
	Dam Failure	1	3	2	4	1	2.1
	Levee Failure	1	3	2	4	1	2.1
	Terrorism	1	3	1	4	2	2.0
LOW	Nuclear Incident	1	1	2	4	1	1.5

Risk Ranking – Lehigh and Northampton Counties

Existing Mitigation Action (from 2013 Hazard Mitigation Plan)		Status					Comments
		No Progress/ Unknown	In Progress	Continuous	Completed	Discontinued	
1	Maintain a centralized library of all data, information and documents compiled, developed and used for the 2012 LV HMP update process, including HAZUS-MH datasets and projects (HPR files). This data shall be used to support plan implementation and future updates, and may be used to support other emergency management and planning functions. Note: This is part of the ongoing 2006 initiative #14 - see also #3 below.	LC		NC			Continuous, carried through to 2018 Action Plan.
2	As resources and training opportunities permit, County EMAs to install HAZUS-HM and train staff in its use.	LC		NC			Continuous, carried through to 2018 Action Plan.
3	Lehigh County to continue to work on enhancing their critical facility inventory, specifically with respect to attribution (e.g. names of facilities, type of construction, etc.). Note: This is part of the ongoing 2006 initiative #14 - see also #1 above.	LC					Continuous, carried through to 2018 Action Plan.
4	Support Lehigh Valley communities with ongoing compliance and enhanced participation in the National Flood Insurance Program (NFIP), specifically through the county-level initiatives identified below.	LC		NC, LVPC			Continuous, carried through to 2018 Action Plan.
5	Continue to promote and assist municipalities with adopting additional and higher regulatory standards by providing model ordinances (e.g. model floodplain management and flood damage ordinances, including increased freeboard and cumulative substantial damages / improvements; carbonate bedrock standards; steep slopes; vegetation management; riparian and wetland buffers), and assisting with local adoption of these ordinances. The LVPC model floodplain regulations are designed to be more effective at preventing flood damage and to better deal with the redevelopment of existing properties that have been subject to repeated flooding, and exceed the National Flood Insurance Program minimum requirements. Note: This is part of the ongoing 2006 initiative #7.	LC		NC, LVPC			Continuous, carried through to 2018 Action Plan.
6	Continue to support Lehigh Valley municipalities with the adoption of carbonate bedrock standards to minimize sinkhole occurrences to reduce hazard impacts on new development. Note: This is part of ongoing 2006 Initiative #7.	LC		NC, LVPC			Action to be removed: covered in #5 above.
7	Improve communication and coordination with the Councils of Governments to promote and support local mitigation efforts.			LC, NC			Continuous, carried through to 2018 Action Plan.
8	Expand support of communities and property owners / developers to understand current and developing flood mapping and NFIP compliance issues.	LC		NC			Continuous, carried through to 2018 Action Plan.
9	Continue to promote and support municipal participation in available Hazard Mitigation Assistance (HMA) grant funding opportunities to mitigate flood-prone structures and infrastructure, including RL/SRL outreach.			LC, NC			Continuous, carried through to 2018 Action Plan.
10	Support and facilitate public education and outreach on the NFIP program (see related Public Education and Outreach initiatives)	LC		NC			Continuous, carried through to 2018 Action Plan.
11	Continue to support and facilitate FEMA floodplain study/remapping and Risk MAP programs	LC		NC, LVPC			Continuous, carried through to 2018 Action Plan.

2013 Action Plan Status – Lehigh and Northampton Counties

Existing Mitigation Action (from 2013 Hazard Mitigation Plan)		Status					Comments
		No Progress/ Unknown	In Progress	Continuous	Completed	Discontinued	
12	Promote and facilitate continued education and training programs for municipal NFIP floodplain managers and other county and local personnel involved in flood and hazard risk management by advertising and/or facilitating training and certification programs offered by PEMA, PADEP, ASFPM. Such training and certification programs include NFIP 101, Certified Floodplain Manager (CFM) certification through the Association of State Floodplain Managers, FEMA Benefit-Costs Analysis (BCA), NIFP Community Rating System (CRS).	LC		NC, LVPC			Continuous, carried through to 2018 Action Plan.
13	Promote and support municipal participation in the Community Rating System (CRS) program to better manage flood risk and reduce flood insurance premiums.	LC, NC		LVPC			Continuous, carried through to 2018 Action Plan.
14	Assist municipalities with NFIP Community Assistance Visits (CAVs).	LC, NC					Continuous, carried through to 2018 Action Plan.
Integrate/coordinate the findings and recommendations of this HMP within the following regional, county and local planning and regulatory mechanisms.							
15a	The "Lehigh Valley Comprehensive Plan...2030"			LVPC			Continuous, carried through to 2018 Action Plan.
15b	County and Local Comprehensive / Master Plans			LVPC			Continuous, carried through to 2018 Action Plan.
15c	Capital Improvement Plans	LC		NC			Continuous, carried through to 2018 Action Plan.
15d	Watershed and Stream Corridor Management Plans			LVPC			Continuous, carried through to 2018 Action Plan.
15e	Comprehensive Emergency Management Plans			LC, NC			Continuous, carried through to 2018 Action Plan.
15f	Act 167 Stormwater Management Plans			LVPC, LC, NC			Continuous, carried through to 2018 Action Plan.
15g	HUD/CDBG Action Plan(s) – maintain CDBG action plans to support mitigation			NC			Continuous, carried through to 2018 Action Plan.
16	Lead and support the implementation, monitoring, maintenance, and update of this Plan, as defined in Section 7.0.			LC, NC			Continuous, carried through to 2018 Action Plan.
17	Continue to provide representation on and support of local and regional flood and watershed committees, commissions and task forces (e.g. Delaware River Basin Commission). Petition DRBC to include LV emergency management representation on their Hazards Committee.	LC		NC, LVPC			Continuous, carried through to 2018 Action Plan.

2013 Action Plan Status – Lehigh and Northampton Counties (continued)

Existing Mitigation Action (from 2013 Hazard Mitigation Plan)		Status					Comments
		No Progress/ Unknown	In Progress	Continuous	Completed	Discontinued	
18	Lehigh County to continue participation in, and Northampton County to complete their current efforts to join, the NOAA "Storm Ready" program to enhance County/community resilience to severe storms. "Storm Ready" communities are better prepared to save lives from the onslaught of severe weather through advanced planning, education and awareness. Participation in the NOAA "Storm Ready" program includes providing information on the "Storm Ready" program, facilitating public outreach and awareness programs, and supporting community storm risk reduction activities as appropriate. Specific actions addressed by "Storm Ready" participation include establishing a 24 hour Warning Point, increase number of ways EOC receives NWS warnings, increase number of ways to disseminate warnings, monitoring hydro-meteorological data, providing annual weather safety talks, train weather spotters, create a formal hazardous weather plan, host annual visits by NWS to communities, etc.			LC	NC		Continuous, action to be revised to reflect Northampton County's StormReady certification.
19	Support communities in the Lehigh Valley with participation in FEMA mitigation grant programs. Specific support activities shall include: 1) Forwarding grant program announcements provided by PEMA and/or FEMA to appropriate municipal representatives in a timely manner. 2) Posting and maintaining grant announcements and associated documents, forms, etc. on the LVHMP webpage. 3) Supporting PEMA and FEMA-sponsored public outreach for available grant opportunities, including RL/SRL outreach. 4) Providing municipalities with grant application support.	LC		NC			Continuous, carried through to 2018 Action Plan.
20	Continue to identify vulnerable county-owned structures and infrastructure, develop and prioritize appropriate mitigation projects, and implement projects as funding is appropriated.	LC		NC			Continuous, carried through to 2018 Action Plan.
21	Work with utility companies and owners/operators of critical facilities to identify and underground important utility lines (esp. those serving critical facilities). Identify and explore potential funding programs, including public/private partnerships, to implement utility hardening projects.	LC		NC			Continuous, carried through to 2018 Action Plan.
Develop a program to improve the quality and consistency of public education and outreach for natural hazard preparedness and mitigation. Specific activities and aspects of this include the following activities and initiatives.							
22	Leverage existing regional and local meetings and media outlets (local websites, newsletters, email "blasts" and mailings) to promote awareness and understanding of personal preparedness and mitigation activities.			LC, NC			Continuous, action to be revised to reflect use of social media.
23	Maintain the Northampton County Emergency Management Services hazard mitigation webpage; Lehigh County to maintain a link to this page on their Emergency Management website. Promote public attention through periodic County homepage announcements and other available media. Advise municipalities to maintain links to the County Emergency Management and HMP websites on their websites.			LC	NC		Continuous, carried through to 2018 Action Plan.

2013 Action Plan Status – Lehigh and Northampton Counties (continued)

Existing Mitigation Action (from 2013 Hazard Mitigation Plan)		Status					Comments
		No Progress/ Unknown	In Progress	Continuous	Completed	Discontinued	
24	Continue to participate in and support the USACE Silver Jackets program, which provides tools and resources in support of public and stakeholder outreach on flood risk management, and an online database to assist in the mitigation grant program application process.					LC, NC	Action not carried through to 2018 Action Plan.
25	Improve public understanding of disaster preparedness and what to do during an emergency, including personal preparedness, available notification/warning services, and incoming and outgoing evacuation routes. Indicate locations of shelters and tips for staying at home. Provide advisories to avoid road travel combined with safe travel tips. Provide information on hazards of unheated houses, guidance on the use of portable and standby generators, fire hazards associated with space heaters, protecting plumbing during a winter storm, and coping with power failures.			LC, NC			Continuous, carried through to 2018 Action Plan.
26	Expand information on emergency service for special needs populations to cover all of the Lehigh Valley.			LC, NC			Continuous, carried through to 2018 Action Plan.
27	Coordinate and facilitate a bi-county hazards insurance summit with appropriate local insurance carriers/companies to promote a stronger regional understanding of hazard insurance needs and options available to public and private property owners. This summit shall address all types of hazard insurance including flood, sinkhole, earthquake, hurricane/high wind, and sump pump failure. Develop and distribute public informational material and distribute through the public outreach program(s) identified above. Note: This is part of ongoing 2006 initiative #5.					LC, NC	Action not carried through to 2018 Action Plan.
28	Incorporate the public education, awareness, preparedness and personal mitigation information provided by Pennsylvania Power and Light (PPL).			LC, NC			Continuous, carried through to 2018 Action Plan.
29	LVPC to continue to support municipal adoption of higher regulatory standards, specifically in the area of floodplain management, riparian and wetland buffers, steep slopes, carbonate bedrock, and other zoning laws to protect natural resources that provide natural hazard protection. Note: This is a continuation of Initiative #15 from the 2006 plan.			LVPC			Action to be removed: covered in #5 above.
30	Work with utilities to enhance programs to keep trees from threatening lives, property, and public infrastructure during storm events, including tree trimming and removal programs.	LC		NC			Continuous, carried through to 2018 Action Plan.

2013 Action Plan Status – Lehigh and Northampton Counties (continued)

Existing Mitigation Action (from 2013 Hazard Mitigation Plan)		Status					Comments
		No Progress/ Unknown	In Progress	Continuous	Completed	Discontinued	
31	<p>Implement the Lehigh Countywide Generator Project, funded through 2008 LPDM. Provide grant administration and technical support, as needed, to those Lehigh County municipalities awarded funding under this grant. Funding for generators has been awarded for the following sites (note: this is part of the implementation of 2006 Initiative #14):</p> <ul style="list-style-type: none"> • Macungie Well #1/Public Works Building – 301 South Church Street, Macungie Borough • Neffs Volunteer Fire Company – 3755 Park Avenue, Neffs, North Whitehall Township • City of Allentown Fire Station – 164 West Susquehanna Avenue, Allentown • Lower Macungie Township Public Works Facility – 5536 Indian Creek Road, Lower Macungie Township • Whitehall Township Authority – 1901 Schadt Avenue, Whitehall Township • Lehigh County Maintenance Facility – 260 South Cedarbrook Road, Allentown • Police Station – 941 Long Street, Fountain Hill Borough • Fountain Hill Borough – Duplex Grinder Pump Station 				LC		Completed, action not carried through to 2018 Action Plan.
32	<p>Implement the Northampton Countywide Generator Project, funded through 2008 LPDM. Provide grant administration and technical support, as needed, to those municipalities awarded funding under this grant. Funding for generators have been awarded for the following sites (note: this is part of the implementation of 2006 Initiative #14):</p> <ul style="list-style-type: none"> • Portland Borough Authority, Well #3 • East Bangor Municipal Authority, Well #34 • Hellertown Borough Authority, Well #1 • Portland Borough Authority, Well #4 • Township of Bethlehem • Lehigh Township Municipal Authority (Danielsville and Pennsville) • Borough of Northampton Sewage Pump 				NC		Completed, action not carried through to 2018 Action Plan.
33	<p>Improve communication and coordination between NC DCED, NC Department of Human Services (NC DHS), NC EMS, LC EMA and the Lehigh Valley Disaster Relief Task Force, particularly to support response and post-disaster recovery efforts (human services, small business recovery assistance, donations management).</p>	LC		NC			Continuous, carried through to 2018 Action Plan.
34	<p>Develop a long-term recovery liaison position to support the above initiative.</p>				LC, NC		Completed, action not carried through to 2018 Action Plan.
35	<p>Northampton County to maintain and train (through ESF-16 and the Regional Catastrophic Planning Task force), and Lehigh County to establish and participate in training, a donations / volunteer management program to improve the receipt and allocation of donations (e.g. equipment, supplies, water, food, clothes), and the deployment of volunteer resources during disaster recovery. This may include identifying and training volunteers to manage the program, and establishing donation / volunteer management center(s).</p>			LC, NC			Continuous, carried through to 2018 Action Plan.

2013 Action Plan Status – Lehigh and Northampton Counties (continued)

Existing Mitigation Action (from 2013 Hazard Mitigation Plan)		Status					Comments
		No Progress/ Unknown	In Progress	Continuous	Completed	Discontinued	
36	County EMAs to continue to pursue implementation of stream/river gauges – pursue participation in the Integrated Flood Observing and Warning System by installation, maintenance and monitoring of additional rainfall/stream/river gauges throughout both counties to provide additional rainfall and stream level data, to allow the counties to disseminate necessary alerts. Both counties have explored implementation of gaging systems, however these systems are expensive and outside funding would be needed support implementation. Both counties intend to continue to explore funding sources, including working with the National Weather Service to develop an acquisition plan, to support project implementation. This is the continued implementation of Initiative #10 from the 2006 plan.					LC, NC	Action not carried through to 2018 Action Plan.
37	County EMAs to continue their efforts to recruit individuals for the following programs: - Citizen Corps Council - Are You Ready? - Community Emergency Response Team (CERT) This is a continuation of Action #13 from the 2006 plan.			LC			Continuous, action to be revised.
38	County EMAs to continue their efforts at identifying and partnering with owners/operators of critical facilities as necessary to provide adequate planning and protection. This is a continuation of Action #14 from the 2006 Plan.			LC, NC			Continuous, carried through to 2018 Action Plan.
39	Research the NFPA “Firewise” program to identify what elements would benefit the LV and how they would be managed and implemented in the LV.					LC, NC	Action not carried through to 2018 Action Plan.
40	Develop and publicize evacuation plans, routes, policies, and procedures for the full range of contingencies and geographic areas of the Lehigh Valley.			LC, NC			Continuous, carried through to 2018 Action Plan.
41	Develop county-level debris management plans for the Lehigh Valley.	LC		NC			Continuous, carried through to 2018 Action Plan.
42	Identify areas and specific residents who would need evacuation assistance, including residents who lack transportation, and develop evacuation assistance plans.			LC, NC			Continuous, carried through to 2018 Action Plan.
43	Improve coordination and cooperation with colleges and universities in the Lehigh Valley to address their emergency management and service’s needs, including mass gathering/civil disturbance risks.			LC, NC			Continuous, carried through to 2018 Action Plan.
44	Implement the Lower Milford Township Creek Stabilization Project, funding through the 2008 LPDM. This project proposes to stabilize a section of Hosensack Creek that is threatening Shultz Bridge Road near its intersection with Buchman Road, through the installation of 19 inches of rip-rap. Provide grant administration and technical support as needed.				LC		Completed, action not carried through to 2018 Plan.
45	Continue to design replacement bridges to the new standards.	LC		NC			Continuous, carried through to 2018 Action Plan.

2013 Action Plan Status – Lehigh and Northampton Counties (continued)

Action #	Mitigation Initiative	Applies to New and/or Existing Structures	Hazard(s) Addressed	Lead and Support Agencies	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Technique Category	Goal - Objective #
1	Maintain a centralized library of all data, information and documents compiled, developed and used for the 2018 LV HMP update process, including HAZUS-MH datasets and projects (HPR files). This data shall be used to support plan implementation and future updates, and may be used to support other emergency management and planning functions.	N/A	All Hazards	LVPC, Lehigh and Northampton County EMAs; County GIS Departments	Low	LVPC, County Budgets	Short	High	All	All
2	As resources and training opportunities permit, LVPC and County EMAs to install HAZUS-MH and train staff in its use.	N/A	Flood, Windstorm, Earthquake	LVPC, Lehigh and Northampton County EMAs; County GIS Departments	Medium	LVPC, County Budgets	Long-term DOF	Medium	Education and Awareness	3 - A
3	Lehigh County to continue to work on enhancing their critical facility inventory, specifically with respect to attribution (e.g., names of facilities, type of construction, etc.).	Both	All Hazards	Lehigh County EMA and GIS Departments	Low-Medium	County Budget	Short	High	Structure and Infrastructure	3 - A
4	Support Lehigh Valley communities with ongoing compliance and enhanced participation in the National Flood Insurance Program (NFIP), specifically through the county-level initiatives identified below.	Both	Flood	LVPC and Lehigh and Northampton County EMAs working with municipalities; supported by PADEP, PEMA, FEMA Region III, Insurance Services Office (ISO)	Low-Medium	LVPC, County Budgets	Ongoing	High	Local Plans and Regulations	2 - B
5	Continue to promote and assist municipalities with adopting additional and higher regulatory standards by providing model ordinances (e.g., model floodplain management and flood damage ordinances, including increased freeboard and cumulative substantial damages/improvements; carbonate bedrock standards; steep slopes; vegetation management; riparian and wetland buffers), and assisting with local adoption of these ordinances. The LVPC model floodplain regulations are designed to be more effective at preventing flood damage and to better deal with the redevelopment of existing properties that have been subject to repeated flooding, and exceed the National Flood Insurance Program minimum requirements.									
	See above	Both	Flood, Subsidence/ Sinkhole, Landslide	LVPC, with support from municipalities and their NFIP FPA, FEMA Region III, ISO, PADEP and PEMA; DRBC	Low-Medium	LVPC, County Budgets	Ongoing	High	Local Plans and Regulations, Natural Systems Protection	2 - C, 4 - B, 6 - B

2018 Mitigation Action Plan – Lehigh and Northampton Counties

Action #	Mitigation Initiative	Applies to New and/or Existing Structures	Hazard(s) Addressed	Lead and Support Agencies	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Technique Category	Goal - Objective #
6	Improve communication and coordination with the Councils of Governments to promote and support local mitigation efforts.	N/A	All Hazards	LVPC, Lehigh and Northampton County EMAs, and NC DCED	Low	LVPC, County Budgets	Ongoing	High	Education and Awareness	8 - A
7	Expand support of communities and property owners/developers to understand current and developing flood mapping and NFIP compliance issues.	N/A	Flood	Lehigh and Northampton County EMAs, NC DCED	Low	County Budgets	Ongoing	High	Education and Awareness	8 - B
8	Continue to promote and support municipal participation in available Hazard Mitigation Assistance (HMA) grant funding opportunities to mitigate flood-prone structures and infrastructure, including RL/SRL outreach.	Existing	Flood	Lehigh and Northampton County EMAs, working with support from municipal NFIP FPAs. Support provided by PEMA, FEMA Region III, PADEP	Medium	County Budgets	Ongoing	High	Education and Awareness	2 - A
9	Support and facilitate public education and outreach on the NFIP program.	Both	Flood	Lehigh and Northampton County EMAs with support from FEMA Region III, ISO, PADEP and PEMA	Low	County Budgets	Ongoing	High	Education and Outreach	2 - B
10	Continue to support and facilitate FEMA floodplain study/remapping and Risk MAP programs.	N/A	Flood	Lehigh and Northampton County EMAs, LVPC with support from municipal NFIP FPA, FEMA Region III, ISO, PADEP and PEMA; DRBC	Medium-Low	LVPC, County Budgets	Ongoing	High	Local Plans and Regulations	2 - B

2018 Mitigation Action Plan – Lehigh and Northampton Counties (continued)

Action #	Mitigation Initiative	Applies to New and/or Existing Structures	Hazard(s) Addressed	Lead and Support Agencies	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Technique Category	Goal - Objective #	
11	Promote and facilitate continued education and training programs for municipal NFIP floodplain managers and other county and local personnel involved in flood and hazard risk management by advertising and/or facilitating training and certification programs offered by PEMA, PADEP, ASFPM. Such training and certification programs include NFIP 101, Certified Floodplain Manager (CFM) certification through the Association of State Floodplain Managers, FEMA Benefit-Costs Analysis (BCA), NFIP Community Rating System (CRS).										
	See above	N/A	Flood	Lehigh and Northampton County EMAs, LVPC with support from municipal NFIP FPA, FEMA Region III, ISO, PADEP and PEMA	Medium-Low	LVPC, County Budgets	Ongoing	High	Education and Awareness	2 - B	
12	Promote and support municipal participation in the Community Rating System (CRS) program to better manage flood risk and reduce flood insurance premiums.	Both	Flood	Lehigh and Northampton County EMAs, LVPC with support from municipal NFIP FPA, FEMA Region III, ISO, PADEP and PEMA	Medium-Low	LVPC, County Budgets	Ongoing	High	Education and Awareness	2 - A	
13	Assist municipalities with NFIP Community Assistance Visits (CAVs).	N/A	Flood	Lehigh and Northampton County EMAs, with support from municipal NFIP FPA, FEMA Region III, ISO, PADEP and PEMA	Medium-Low	County, Municipal Budgets	Ongoing	High	Local Plans and Regulations	2 - B	
Integrate/coordinate the findings and recommendations of this HMP within the following regional, county and local planning and regulatory mechanisms:											
14a	The "Lehigh Valley Comprehensive Plan...2030" - update with FutureLV Plan 2019	N/A	All Hazards	LVPC, working with counties and municipalities	Medium	LVPC Budget	Short	High	Local Plans and Regulations, Natural Systems Protection	6 - A	

2018 Mitigation Action Plan – Lehigh and Northampton Counties (continued)

Action #	Mitigation Initiative	Applies to New and/or Existing Structures	Hazard(s) Addressed	Lead and Support Agencies	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Technique Category	Goal - Objective #
14b	Local Comprehensive/Master Plans	N/A	All Hazards	LVPC, working with municipalities	Medium	LVPC, Municipal Budgets	Ongoing	High	Local Plans and Regulations, Natural Systems Protection	6 - A
14c	Capital Improvement Plans	N/A	All Hazards	County and Municipalities	Low	Local and County funding; matching with available State and Federal sources	Ongoing	High	Local Plans and Regulations	6 - C
14d	Watershed and Stream Corridor Management Plans	N/A	Flood	LVPC, working with municipalities	Medium	LVPC, Municipal Budgets	Ongoing	High	Local Plans and Regulations, Natural Systems Protection	6 - C
14e	Comprehensive Emergency Management Plans	N/A	All Hazards	Lehigh and Northampton County EMAs, working with municipalities	Low	County, Municipal Budgets	Ongoing	High	Local Plans and Regulations	6 - D
14f	Act 167 Stormwater Management Plans	N/A	Flood	LVPC, working with counties and municipalities	Medium-High	State funding (suspended)	Pending reinstatement of state funding	High	Local Plans and Regulations, Natural Systems Protection	6 - C
14g	HUD/CDBG Action Plan(s) – maintain CDBG action plans to support mitigation	Existing	Flood	NC DCED	Medium	County, for maintenance of Action Plans	Ongoing	High	Local Plans and Regulations	6 - C
14h	Fully integrate hazard mitigation planning with infrastructure planning and funding for roads; bridges; transit; sewer, water and stormwater facilities, and other utilities.	Both	All Hazards	LVPC, LVTS, LV Regional Partnership	High	Federal, State, Local	Long-term DOF	High	Local Plans and Regulations, Structure and Infrastructure	6 - A

2018 Mitigation Action Plan – Lehigh and Northampton Counties (continued)

Action #	Mitigation Initiative	Applies to New and/or Existing Structures	Hazard(s) Addressed	Lead and Support Agencies	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Technique Category	Goal - Objective #
15	Lead and support the implementation, monitoring, maintenance and update of this Plan	N/A	All Hazards	LC EMA and NC EMS jointly (through their directors), working with the Hazard Mitigation Plan Administrative Planning Team, participating jurisdictions, PEMA, FEMA Region III	Low-High (for 5-year update)	LVPC, County, Municipal Budgets, FEMA Mitigation Grant Funding for 5-year update	Ongoing	High	All	5 - B
16	Continue to provide representation on and support of local and regional flood and watershed committees, commissions and task forces (e.g., Delaware River Basin Commission).	N/A	All Hazards	Lehigh and Northampton County EMAs, LVPC	Low-Medium	LVPC, County Budgets	Ongoing	High	Education and Awareness	2 - B
17	Lehigh and Northampton counties to continue participation in the NOAA "Storm Ready" program to enhance County/community resilience to severe storms. "Storm Ready" communities are better prepared to save lives from the onslaught of severe weather through advanced planning, education and awareness. Participation in the NOAA "Storm Ready" program includes providing information on the "Storm Ready" program, facilitating public outreach and awareness programs, and supporting community storm risk reduction activities as appropriate. Specific actions addressed by "Storm Ready" participation include establishing a 24-hour Warning Point, increasing the number of ways EOCs receive NWS warnings, increasing the number of ways to disseminate warnings, monitoring hydro-meteorological data, providing annual weather safety talks, training weather spotters, creating a formal hazardous weather plan, hosting annual visits by NWS to communities, etc.									
	See above.	N/A	Flood, Winter Storm	Lehigh and Northampton County EMAs, with support from NWS, PEMA, FEMA, PADEP	Low-Medium	County Budgets	Ongoing	High	Education and Awareness	8 - A

2018 Mitigation Action Plan – Lehigh and Northampton Counties (continued)

Action #	Mitigation Initiative	Applies to New and/or Existing Structures	Hazard(s) Addressed	Lead and Support Agencies	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Technique Category	Goal - Objective #	
18	Support communities in the Lehigh Valley with participation in FEMA mitigation grant programs. Specific support activities shall include: 1) Forwarding grant program announcements provided by PEMA and/or FEMA to appropriate municipal representatives in a timely manner. 2) Posting and maintaining grant announcements and associated documents, forms, etc. on the LV HMP webpage. 3) Supporting PEMA and or FEMA-sponsored public outreach for available grant opportunities, including RL/SRL outreach. 4) Providing municipalities with grant application support.										
	See above	Existing	All Hazards	Lehigh and Northampton County EMAs; support from PEMA and FEMA Region III	Medium	County Budgets	Ongoing	High	Education and Awareness	8 - A	
19	Continue to identify vulnerable county-owned structures and infrastructure, develop and prioritize appropriate mitigation projects, and implement projects as funding is appropriated.	Existing	All Hazards	Lehigh and Northampton County EMAs; working with county departments and agencies with critical facilities and infrastructure	Medium-High	County Budgets	Ongoing	Medium	Structure and Infrastructure	3 - A	
20	Work with utility companies and owners/operators of critical facilities to identify and underground important utility lines (esp. those serving critical facilities). Identify and explore potential funding programs, including public/private partnerships, to implement utility hardening projects.	Existing	Windstorm, Winter Storm	County EMAs and DPWs, working with utilities and owners/operators of critical facilities	Medium (identification of projects); High (implementation)	County Budgets to identify; Implementation TBD	Ongoing	Medium	Structure and Infrastructure	3 - A	
Develop a program to improve the quality and consistency of public education and outreach for natural and non-natural hazard preparedness and mitigation. Specific activities and aspects of this include the following activities and initiatives.											
21	Leverage existing regional and local meetings, conferences and media outlets (social media, local websites, newsletters, email "blasts" and mailings) to promote awareness and understanding of personal preparedness and mitigation activities the public can take to reduce or eliminate the impact of hazards on their services and infrastructure.	N/A	All Hazards	LVPC, Lehigh and Northampton County EMAs, working with municipalities	Low	LVPC, County, Municipal Budgets	Ongoing	High	Education and Awareness	8 - B	

2018 Mitigation Action Plan – Lehigh and Northampton Counties (continued)

Action #	Mitigation Initiative	Applies to New and/or Existing Structures	Hazard(s) Addressed	Lead and Support Agencies	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Technique Category	Goal - Objective #
22	Migrate the Northampton County Emergency Management Services hazard mitigation webpage to the LVPC website; Lehigh County and Northampton County to create a link to this website on their Emergency Management websites. Promote public attention through periodic web announcements and other available media. Advise municipalities to create links to the LVPC website on their websites.	N/A	All Hazards	LVPC, Lehigh and Northampton County EMAs, working with municipalities	Low-Medium	LVPC, County and Municipal Budgets	Ongoing	High	Education and Awareness	8 - A
23	Improve public understanding of disaster preparedness and what to do during an emergency.	N/A	All Hazards	County EMAs, working with local EM, police, fire and Local Emergency Planning Committees (LEPCs)	Low-Medium	County, Municipal Budgets	Ongoing	High	Education and Awareness	8 - B
24	Expand information on emergency service for special needs populations to cover all of the Lehigh Valley.	N/A	All Hazards	Lehigh and Northampton County EMAs, County Human Services	Low-Medium	County Budgets	Ongoing	High	Education and Awareness	1 - C
25	Incorporate the public education, awareness, preparedness and personal mitigation information provided by Pennsylvania Power and Light (PPL).	N/A	Windstorm, Winter Storm, Fire (Urban/ Structural), Environmental Hazards/ Explosion, Utility Interruption	Lehigh and Northampton County EMAs	Low	County Budgets	Short	High	Education and Awareness	8 - B
26	Work with utilities to enhance programs to keep trees from threatening lives, property, and public infrastructure during storm events, including tree trimming and removal programs.	Existing	Windstorm, Winter Storm	County EMAs and DPWs, Utilities	Medium-High	Current funding sources	Ongoing	Medium	Structure and Infrastructure	3 - A

2018 Mitigation Action Plan – Lehigh and Northampton Counties (continued)

Action #	Mitigation Initiative	Applies to New and/or Existing Structures	Hazard(s) Addressed	Lead and Support Agencies	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Technique Category	Goal - Objective #
27	Improve communication and coordination between NC DCED, NC Department of Human Services (NC DHS), NC EMS, LC EMA, particularly to support response and post-disaster recovery efforts (human services, small business recovery assistance, donations management).	N/A	All Hazards	NCEMS, LCEMA, NC DCED, NC DHS	Medium	County, Municipal Budgets.	Short	Medium	Education and Awareness	7 - A
28	Northampton County to maintain and train (through ESF-16 and the Regional Catastrophic Planning Task force), and Lehigh County to establish and participate in training, a donations/volunteer management program to improve the receipt and allocation of donations (e.g. equipment, supplies, water, food, clothes), and the deployment of volunteer resources during disaster recovery. This may include identifying and training volunteers to manage the program, and establishing donation/volunteer management center(s).									
	See above.	N/A	All Hazards	NCEMS, LCEMA, NC DCED, NC DHS; working with the Lehigh Valley Disaster Relief Task Force	Medium-High	County Budgets; supported by Federal and State EM funding as available	Ongoing	High	Education and Awareness	7 - D
29	Lehigh County EMA to continue their efforts to recruit individuals for the following programs: Citizen Corps Council, Ready...Pack...Go, Community Emergency Response Team (CERT) and update and expand programs for those with access and functional needs.	N/A	All Hazards	Lehigh County EMA, partnering with Lehigh Valley Center for Independent Living	Low-Medium	County Budget	Ongoing	Medium-High	Education and Awareness	7 - D
30	County EMAs to continue their efforts at identifying and partnering with owners/operators of critical facilities as necessary to provide adequate planning and protection.	Existing	All Hazards	Lehigh and Northampton County EMAs	Low	County Budgets	Ongoing	High	Structure and Infrastructure	3 - A
31	Develop and publicize evacuation plans, routes, policies, and procedures for the full range of contingencies and geographic areas of the Lehigh Valley.	N/A	All Hazards	Lehigh and Northampton County EMAs	Medium-High	County Budgets	Short	Medium	Education and Awareness	7 - B
32	Develop county-level debris management plans for the Lehigh Valley.	N/A	Flood, Windstorm, Winter Storm	Lehigh and Northampton County EMAs	Medium	County Budgets, FEMA EMPG	Long-term	Low-Medium	Local Plans and Regulations	7 - B

2018 Mitigation Action Plan – Lehigh and Northampton Counties (continued)

Action #	Mitigation Initiative	Applies to New and/or Existing Structures	Hazard(s) Addressed	Lead and Support Agencies	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Technique Category	Goal - Objective #
33	Identify areas and specific residents who would need evacuation assistance, including residents who lack transportation, and develop evacuation assistance plans.	N/A	All Hazards	Lehigh and Northampton County EMAs, working with County Human Services and municipalities	Low-Medium	County Budgets, FEMA EMPG	Short	Medium-High	Education and Awareness	1 - C
34	Improve coordination and cooperation with colleges and universities in the Lehigh Valley to address their emergency management and service's needs, including mass gathering/civil disturbance risks.	N/A	All Hazards, spec. Civil Disturbance/ Mass Gathering	Lehigh and Northampton County EMAs, working with college and university emergency services	Low	County Budgets	Ongoing	High	Education and Awareness	7 - A
35	Continue to design replacement bridges to Federal and State standards.	Existing	Flood	Northampton County DPW	High	FEMA Mitigation Grant Programs, County Budget for local share	Ongoing	High	Structure and Infrastructure	3 - A
36	Enhance the County website to create a place to consolidate public information related to disaster response and recovery	N/A	All Hazards	Lehigh County EMA	Low	County Budget	2019	Medium	Education and Awareness	8 - A
37	Continue to review SARA site plans to ensure they are capturing critical facilities surrounding their facility.	Both	Environmental Hazards/ Explosion, Terrorism	Lehigh and Northampton County EMAs	Low	County Budgets/ LEPC	Lehigh County: Ongoing; Northampton County: Short	Medium	Structure and Infrastructure	3 - A
38	Continue to provide County HazMat team tours of large and new SARA facilities within the county to maintain familiarization of facility layouts and build working relationships with facility owners and operators.	Both	Environmental Hazards/ Explosion	Lehigh County EMA	Low	County Budget	Ongoing	Low	Structure and Infrastructure, Education and Awareness	7 - A

2018 Mitigation Action Plan – Lehigh and Northampton Counties (continued)

Action #	Mitigation Initiative	Applies to New and/or Existing Structures	Hazard(s) Addressed	Lead and Support Agencies	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Technique Category	Goal - Objective #
39	Revise Lehigh County Evacuation Plan	N/A	Flood, Wildfire, Windstorm/ Tornado, Dam Failure, Environmental Hazards/ Explosion, Fire (Urban/ Structural), Levee Failure, Civil Disturbance/ Mass Gathering, Nuclear Incident, Terrorism	Lehigh County EMA	\$5,000	Grants	Long-Term	Low	Local Plans and Regulations	7 - B
40	Revise Mass Care and Shelter Plans	N/A	All Hazards	Lehigh County EMA	Low	County Budget	Ongoing	Low	Local Plans and Regulations	7 - B
41	Work with American Red Cross of the Lehigh Valley to revise and update the Lehigh County and Northampton County list of Evacuation/Warming Center and Shelter locations. Conduct Site Surveys for all facilities on the current list and include new facilities that may be utilized during emergency situations.	N/A	All Hazards	Lehigh and Northampton County EMAs/ American Red Cross	Low	Lehigh County: County Funding/ Staff Time, and American Red Cross Staff/ Volunteer Time; Northampton County: County Budget	Lehigh County: Ongoing; Northampton County: Short	Lehigh County: High; Northampton County: Medium	Education and Awareness	7 - B

2018 Mitigation Action Plan – Lehigh and Northampton Counties (continued)

Action #	Mitigation Initiative	Applies to New and/or Existing Structures	Hazard(s) Addressed	Lead and Support Agencies	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Technique Category	Goal - Objective #
42	Continue to train Local Emergency Management Coordinators, Community Emergency Response Team (CERT), Lehigh Valley Community Animal Response Team (CART), Allentown Medical Reserve Corps and Bethlehem Medical Reserve Corps volunteers in Evacuation/Warming Center and Sheltering Operations, and Points of Dispensing Trainings and Exercises.	N/A	All Hazards	Lehigh County EMA, Allentown/Bethlehem Health Bureau and American Red Cross	Low	County Funding/Staff Time, Local Hospitals, American Red Cross, Allentown/Bethlehem Health Bureaus and Volunteer Time	Ongoing	Low-Medium	Education and Awareness	7 - D
43	Continue to update Points of Dispensing (POD) locations and plans.	N/A	Pandemic and Infectious Disease	Lehigh County EMA, Allentown Health Bureau, Northeast District Office of Department of Health	Low	County Budget, Allentown Health Bureau, Northeast District Office of Department of Health, Emergency Management Agency	Ongoing	Low	Local Plans and Regulations, Education and Awareness	7 - A
44	Meet quarterly with Volunteer Organizations Active in Disaster (VOAD) partners to maintain preparedness, ensure situational awareness, identify resource capabilities and build stakeholder relationships pre-disaster.	N/A	All Hazards	Lehigh and Northampton County EMAs/ PA-VOAD	Low	County Budgets	Ongoing	Medium	Education and Awareness	7 - A

2018 Mitigation Action Plan – Lehigh and Northampton Counties (continued)

Action #	Mitigation Initiative	Applies to New and/or Existing Structures	Hazard(s) Addressed	Lead and Support Agencies	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Technique Category	Goal - Objective #
45	Support resiliency of the private sector through information sharing, partnership building, training and education on preparedness, Continuity of Operations Planning (COOP), mitigation principals and the Lehigh Valley Hazard Mitigation Plan.	Both	All Hazards	Lehigh County EMA	Low	County Budget	Ongoing	Ongoing	Education and Awareness	7 - C
46	Acknowledge and address climate change issues, concerns and impacts on the Lehigh Valley Plans	Both	All Hazards	Lehigh County EMA	Low	County Budget	Long-Term	Low	Local Plans and Regulations, Structure and Infrastructure, Natural Systems Protection, Education and Awareness	1 - A
47	Create a hazard event database to capture description, severity, location, impact and potential loss/damage estimate from an event. The data will be utilized to update the hazard analysis and mitigation actions.	Both	All Hazards	Lehigh County EMA	Low	County Budget	Short-Term	Medium	Local Plans and Regulations	5 - A
48	Provide training opportunities for First Responder community on Disability Awareness and Cultural Diversity.	N/A	All Hazards	Lehigh County EMA	Low	County Funding	Ongoing	Low	Education and Awareness	7 - A
49	Conduct Mass Casualty Exercises	N/A	All Hazards	Lehigh County EMA, Hospitals, EMS, Fire and Police	Low	HSGP	Ongoing	Low	Education and Awareness	7 - A
50	Update the Emergency Operations Center	Existing	All Hazards	Lehigh County EMA	Medium	HSGP	Ongoing	Low	Structure and Infrastructure	7 - D
51	Enhance THIRA process to identify resource gaps.	N/A	All Hazards	Lehigh County EMA	Low	Staff Time	Ongoing	Low	Education and Awareness	5 - A
52	Purchase of necessary response vehicles and equipment for all-hazard response to disasters.	N/A	Environmental Hazards/ Explosion, Terrorism	Lehigh County EMA	High	Lehigh County's Capital Projects Plan	2018-2021	High	Structure and Infrastructure	7 - D

2018 Mitigation Action Plan – Lehigh and Northampton Counties (continued)

Action #	Mitigation Initiative	Applies to New and/or Existing Structures	Hazard(s) Addressed	Lead and Support Agencies	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Technique Category	Goal - Objective #
53	Install generator lugs onto generator located at County of Northampton Emergency Operations Center (EOC) in Upper Nazareth Township. This will allow a mobile generator to be installed in place of the current back-up generator if there is a failure.	Existing	All Hazards	Northampton County EMA	Medium	County Budget/ Grants	Short DOF	Medium	Structure and Infrastructure	7 - D
54	Generator Lugs installed at all county critical facility sites. Such as communications tower locations, critical county buildings. This will allow a mobile generator to be installed in place of the current back-up generator if there is a failure.	Both	All Hazards	Northampton County EMA	Medium	County Budget/ Grants	Short DOF	Medium	Structure and Infrastructure	7 - D
55	Upgrade site security, enhance safety at County of Northampton EOC/911 facility in Upper Nazareth Township. Update/enhance security cameras, install fencing, other protective upgrades.	Existing	All Hazards	Northampton County EMA	Medium	County Budget/ Grants	Short-Medium DOF	Medium	Structure and Infrastructure	7 - D
56	Update/enhance security at County of Northampton critical facilities such as communication tower sites. Update/install fencing, update security cameras, etc.	Both	Terrorism	Northampton County EMA	Medium	County Budget/ Grants	Medium DOF	Medium	Structure and Infrastructure	7 - D
57	Funding for training programs for first responders within the County of Northampton.	N/A	All Hazards	Northampton County EMA	Low	County Budget/ Grants/ LEPC/ PEMA/ FEMA	Short	Medium	Education and Awareness	7 - A
58	Installation of wireless monitoring devices on waterways/rivers through the county. Used to monitor water levels, real time data on ice jams, flooding and possible life emergencies. Wireless cameras along the river would be considered for this project.	N/A	Flood, Drought, Dam Failure, Levee Failure	Northampton County EMA	Medium	County Budget/ Grants	Medium DOF	Medium	Education and Awareness	1 - B

2018 Mitigation Action Plan – Lehigh and Northampton Counties (continued)

Action #	Mitigation Initiative	Applies to New and/or Existing Structures	Hazard(s) Addressed	Lead and Support Agencies	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Technique Category	Goal - Objective #
59	Create/update/expand on Community Emergency Response Team (CERT) program & ServPA program.	N/A	All Hazards	Northampton County EMA	Low	County Budget/PEMA/Grants	Short	Medium	Education and Awareness	7 - A

2018 Mitigation Action Plan – Lehigh and Northampton Counties (continued)

Notes:

Estimated 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 reappropriation 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):

PDM = Pre-Disaster Mitigation Grant Program

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