



Lehigh and Northampton Counties Annex HAZARD MITIGATION PLAN POINTS OF CONTACT



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Capability Assessment – Lehigh County

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			

Capability Assessment – Northampton County

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			

Risk Ranking – Lehigh and Northampton Counties

Hazard Risk	Natural Hazards	Probability	Impact	Extend	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

Hazard Risk	Non-Natural Hazards	Probability	Impact	Extend	Warning	Duration	Risk Factor
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

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	Maintain a centralized library of all data, information and documents compiled, developed and used for the 2013 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 over 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 over 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 over 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 over 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 over 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 over 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 over to 2018 Action Plan.

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	
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 over 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 over to 2018 Action Plan.
11	Continue to support and facilitate FEMA floodplain study/remapping and Risk MAP programs			LC, NC			Continuous, carried over to 2018 Action Plan.
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), and NFIP Community Rating System (CRS).			LC, NC, LVPC			Continuous, carried over 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 over to 2018 Action Plan.
14	Assist municipalities with NFIP Community Assistance Visits (CAVs).	LC, NC					Continuous, carried over 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 over to 2018 Action Plan.
15b	County and Local Comprehensive / Master Plans			LVPC			Continuous, carried over to 2018 Action Plan.
15c	Capital Improvement Plans			LC, NC			Continuous, carried over to 2018 Action Plan.
15d	Watershed and Stream Corridor Management Plans			LVPC			Continuous, carried over to 2018 Action Plan.
15e	Comprehensive Emergency Management Plans			LC, NC			Continuous, carried over to 2018 Action Plan.

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	
15f	Act 167 Stormwater Management Plans			LC, NC, LVPC			Continuous, carried over to 2018 Action Plan.
15g	HUD/CDBG Action Plan(s) – maintain CDBG action plans to support mitigation			LC, NC			Continuous, carried over 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 over 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.
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 over to 2018 Action Plan.

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	
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 over 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 over to 2018 Action Plan.
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, carried over to 2018 Action Plan.
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 over to 2018 Action Plan.
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 over to the 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 over 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 over to 2018 Action Plan.

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	
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 over to the 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 over 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 over to 2018 Action Plan.

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	
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 Twp. • Whitehall Township Authority – 1901 Schadt Avenue, Whitehall Township • Lehigh County Maintenance Facility – 260 South Cedarbrook Road, Allentown • Fountain Hill Police Station – 941 Long Street, Fountain Hill Borough • Fountain Hill Borough – Duplex Grinder Pump Station 				LC		Completed, action not carried over to the 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 over to the 2018 Action Plan.

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	
33	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).	LC		NC			Continuous, carried over to 2018 Action Plan.
34	Develop a long-term recovery liaison position to support the above initiative.				NC		Completed, action not carried over to the 2018 Action Plan.
35	Northampton County to maintain and train (through ESF-16 and the Regional Catastrophic Planning Task force), and Lehigh County to maintain and train (through ESF -15), 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).			LC, NC			Continuous, carried over to 2018 Action Plan.
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 over to the 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 over 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 over to the 2018 Action Plan.

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	
40	Develop evacuation plans, routes, policies, and procedures for the full range of contingencies and geographic areas of the Lehigh Valley.			LC, NC			Continuous, carried over to 2018 Action Plan.
41	Develop county-level debris management plans for the Lehigh Valley.	LC		NC			Continuous, carried over 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 over 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 riprap. 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 over to 2018 Action Plan.

2018 Mitigation Action Plan

	Mitigation Action & (Goal – Objective #)	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	Maintain a centralized library of all data, information and documents compiled, developed and used for the 2018 LV HMP update process, including HAZUSMH 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. (All)	All	All Hazards	High	Low	LVPC, County Budgets	LVPC, Lehigh and Northampton County EMAs; County GIS Departments	Short	N/A
2	As resources and training opportunities permit, LVPC and County EMAs to install HAZUS-MH and train staff in its use. (3-A)	Education and Awareness	Flood, Windstorm, Earthquake	Medium	Medium	LVPC, County Budgets	LVPC, Lehigh and Northampton County EMAs; County GIS Departments	Long-term DOF	N/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.). (3-A)	Structure and Infrastructure	All Hazards	High	Low-Medium	County Budget	Lehigh County EMA and GIS Departments	Short	Both
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. (2-B)	Local Plans and Regulations	Flood	High	Low – Medium	LVPC, County Budgets	LVPC and Lehigh and Northampton County EMAs working with municipalities; supported by PADEP, PEMA, FEMA Region III, Insurance Services Office (ISO)	Ongoing	Both

2018 Mitigation Action Plan – continued

	Mitigation Action & (Goal – Objective #)	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
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.	Local Plans and Regulations, Natural Systems Protection	Flood, Subsidence / Sinkhole, Landslide	High	Low – Medium	LVPC, County Budgets	LVPC, with support from municipalities and their NFIP FPA, FEMA Region III, ISO, PADEP and PEMA; DRBC	Ongoing	Both
6	Improve communication and coordination with the Councils of Governments to promote and support local mitigation efforts.	Education and Awareness	All Hazards	High	Low	County Budgets	LVPC, Lehigh and Northampton County EMAs, and NC DCED	Ongoing	N/A
7	Expand support of communities and property owners/developers to understand current and developing flood mapping and NFIP compliance issues.	Education and Awareness	Flood	High	Low	County Budgets	Lehigh and Northampton County EMAs, NC DCED	Ongoing	Both

2018 Mitigation Action Plan – continued

	Mitigation Action & (Goal – Objective #)	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	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. (2-A)	Education and Awareness	Flood	High	Medium	County Budgets	Lehigh and Northampton County EMAs, working with support from municipal NFIP FPAs. Support provided by PEMA, FEMA Region III, PADEP	Ongoing	Existing
9	Support and facilitate public education and outreach on the NFIP program. (2-B)	Education and Outreach	Flood	High	Low	County Budgets	Lehigh and Northampton County EMAs with support from FEMA Region III, ISO, PADEP and PEMA	Ongoing	Both
10	Expand support of communities and property owners/developers to understand Continue to support and facilitate FEMA floodplain study/remapping and Risk MAP programs. Current and developing flood mapping and NFIP compliance issues. (2-B)	Local Plans and Regulations	Flood	High	Medium – Low	LVPC, County Budgets	Lehigh and Northampton County EMAs, LVPC w/ support from municipal NFIP FPA, FEMA Region III, ISO, PADEP and PEMA; DRBC	Ongoing	N/A

2018 Mitigation Action Plan – continued

	Mitigation Action & (Goal – Objective #)	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
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). (2-B)	Education and Awareness	Flood	High	Medium – Low	LVPC, County Budgets	Lehigh and Northampton County EMAs, working with support from municipal NFIP FPAs. Support provided by PEMA, FEMA Region III, PADEP	Ongoing	Existing
12	Promote and support municipal participation in the Community Rating System (CRS) program to better manage flood risk and reduce flood insurance premiums. (2-A)	Education and Awareness	Flood	High	Medium – Low	LVPC, County Budgets	Lehigh and Northampton County EMAs, LVPC w/ support from FEMA Region III, ISO, PADEP and PEMA	Ongoing	Both
13	Assist municipalities with NFIP Community Assistance Visits (CAVs). (2-B)	Local Plans and Regulations	Flood	High	Medium – Low	County, Municipal Budgets	Lehigh and Northampton County EMAs w/ support from municipal NFIP FPA, FEMA Region III, ISO, PADEP and PEMA; DRBC	Ongoing	N/A

2018 Mitigation Action Plan – continued

Mitigation Action & (Goal – Objective #)	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	
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 (6-A)	Local Plans and Regulations, Natural Systems Protection	All Hazards	High	Medium	LVPC Budget	LVPC, working with counties and municipalities	Short	N/A
14b	Local Comprehensive/Master Plans (6-A)	Local Plans and Regulations, Natural Systems Protection	All Hazards	High	Medium	LVPC, Municipal Budgets	LVPC, working with municipalities	Ongoing	N/A
14c	Capital Improvement Plans (6-C)	Local Plans and Regulations	All Hazards	High	Low	Local and County funding; matching w/ available State and Federal sources	County and Municipalities	Ongoing	N/A
14d	Watershed and Stream Corridor Management Plans (6-C)	Local Plans and Regulations, Natural Systems Protection	Flood	High	Medium	LVPC, Municipal Budgets	LVPC, working with municipalities	Ongoing	N/A
14e	Comprehensive Emergency Management Plans (6-D)	Local Plans and Regulations	All Hazards	High	Low	County, Municipal Budgets	Lehigh and Northampton County EMAs, working with municipalities	Ongoing	N/A

2018 Mitigation Action Plan – continued

Mitigation Action & (Goal – Objective #)	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	
Integrate/coordinate the findings and recommendations of this HMP within the following regional, county and local planning and regulatory mechanisms:									
14f	Act 167 Stormwater Management Plans (6-C)	Local Plans and Regulations, Natural Systems Protection	Flood	High	Medium – High	State funding (suspended)	LVPC, working with counties and municipalities	Pending re - instatement of state funding	N/A
14g	HUD/CDBG Action Plan(s) – maintain CDBG action plans to support mitigation (6-C)	Local Plans and Regulations, Natural Systems Protection	Flood	High	Medium	County for maintenance of Action Plans	NC DCED, LC DCED	Ongoing	Existing
14h	Fully integrate hazard mitigation planning with infrastructure planning and funding for roads; bridges; transit; sewer, water and Stormwater facilities, and other utilities. (6-A)	Local Plans and Regulations	All Hazards	High	High	Federal, State, Local	LVPC, LVTS, LV Regional Partnership	Long-Term DOF	Both
15	Lead and support the implementation, monitoring, maintenance and update of this Plan (5-B)	All	All Hazards	High	Low-High (for 5 year update)	LVPC, County, Municipal Budgets, FEMA Mitigation Grant Funding for 5-year update	LCEMA & NCEMS jointly working w/ the HazMit Plan Admin. Planning Team, participating jurisdictions, PEMA, FEMA Region III	Ongoing	N/A
16	Cont. to provide representation & support of local/regional flood & watershed committees' commissions & task forces (e.g., Delaware River Basin Commission). (2-B)	Education and Awareness	All Hazards	High	Low – Medium	LVPC, County Budgets	Lehigh and Northampton County EMAs, LVPC	Ongoing	N/A

2018 Mitigation Action Plan – continued

	Mitigation Action & (Goal – Objective #)	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
17	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. (8-A)	Education and Awareness	Flood, Winter Storm	High	Low – Medium	County Budgets	Lehigh and Northampton County EMAs, with support from NWS, PEMA, FEMA, PADEP	Ongoing	N/A

2018 Mitigation Action Plan – continued

	Mitigation Action & (Goal – Objective #)	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
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. (8-A)	Education and Awareness	All Hazards	High	Medium	County Budgets	Lehigh and Northampton County EMAs; support from PEMA and FEMA Region III	Ongoing	Existing
19	Continue to identify vulnerable county-owned structures and infrastructure, develop and prioritize appropriate mitigation projects, and implement projects as funding is appropriated. (3-A)	Structure and Infrastructure	All Hazards	Medium	Medium – High	County Budgets	Lehigh and Northampton County EMAs; working with county departments and agencies with critical facilities and infrastructure	Ongoing	Existing

2018 Mitigation Action Plan – continued

	Mitigation Action & (Goal – Objective #)	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
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. (3-A)	Education and Awareness	Windstorm, Winter Storm	Medium	Medium (identification of projects); High (implementation)	County Budgets to identify; Implementation TBD	County EMAs and DPWs, working with utilities and owners/operators of critical facilities	Ongoing	Existing
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 & local meetings, conferences and media outlets (social media, local websites, newsletters, email “blasts” and mailings) to promote awareness & understanding of personal preparedness & mitigation activities the public can take to reduce or eliminate the impact of hazards on their services and infrastructure. (8-B)	Education and Awareness	All Hazards	High	Low	LVPC, County, Municipal Budgets	LVPC, Lehigh and Northampton County EMAs, working with municipalities	Ongoing	N/A

2018 Mitigation Action Plan – continued

Mitigation Action & (Goal – Objective #)	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>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. (8-A)</p>	<p>Education and Awareness</p>	<p>All Hazards</p>	<p>High</p>	<p>Low – Medium</p>	<p>LVPC, County and Municipal Budgets</p>	<p>LVPC, Lehigh & Northampton County EMAs, working with municipalities</p>	<p>Ongoing</p>	<p>N/A</p>
<p>23 Improve public understanding of disaster preparedness and what to do during an emergency. (8-B)</p>	<p>Education and Awareness</p>	<p>All Hazards</p>	<p>High</p>	<p>Low – Medium</p>	<p>County, Municipal Budgets</p>	<p>County EMAs, working w/ local EM, police, fire & Local Emergency Planning Committees (LEPCs)</p>	<p>Ongoing</p>	<p>N/A</p>
<p>24 Expand information on emergency service for special needs populations to cover all of the Lehigh Valley. (1-C)</p>	<p>Education and Awareness</p>	<p>All Hazards</p>	<p>High</p>	<p>Low – Medium</p>	<p>County Budgets</p>	<p>Lehigh & Northampton County EMAs, County Human Services</p>	<p>Ongoing</p>	<p>N/A</p>

2018 Mitigation Action Plan – continued

	Mitigation Action & (Goal – Objective #)	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
25	Incorporate the public education, awareness, preparedness and personal mitigation information provided by Pennsylvania Power and Light (PPL). (8-B)	Education and Awareness	Windstorm, Winter Storm, Fire (Urban/ Structural), Environmental Hazards/ Explosion, Utility Interruption	High	Low	County Budgets	Lehigh and Northampton County EMAs	Short	N/A
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. (3-A)	Structure and Infrastructure	Windstorm, Winter Storm	Medium	Medium – High	Current funding sources	County EMAs and DPWs, Utilities	Ongoing	Existing
27	Improve communication and coordination between NC DCED, NC Department of Human Services (NC DHS), NCEMS, LCEMA, particularly to support response and post-disaster recovery efforts (human services, small business recovery assistance, & donations management). (7-A)	Education and Awareness	All Hazards	Medium	Medium	County, Municipal Budgets	NCEMS, LCEMA, NC DCED, NC DHS	Short	N/A

2018 Mitigation Action Plan – continued

	Mitigation Action & (Goal – Objective #)	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
28	Northampton County to maintain and train (through ESF-16 and the Regional Catastrophic Planning Task force), and Lehigh County to maintain and train (through ESF-15), 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). (7-D)	Education and Awareness	All Hazards	High	Medium – High	County Budgets; supported by Federal & State EM funding as available	NCEMS, LCEMA, NC DCED, NC DHS; working w/ the Lehigh Valley Disaster Relief Task Force	Ongoing	N/A
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. (7-D)	Education and Awareness	All Hazards	Medium – High	Low – Medium	County Budget	Lehigh County EMA, partnering with Lehigh Valley Center for Independent Living	Ongoing	N/A
30	County EMAs to continue their efforts at identifying and partnering w/ owners/operators of critical facilities as necessary to provide adequate planning and protection. (3-A)	Structure and Infrastructure	All Hazards	Medium	Low	County Budgets	Lehigh and Northampton County EMAs	Ongoing	Existing

2018 Mitigation Action Plan – continued

Mitigation Action & (Goal – Objective #)		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
31	Develop evacuation plans, routes, policies, & procedures for the full range of contingencies & geographic areas of the Lehigh Valley. (7-B)	Education and Awareness	All Hazards	Medium	Medium - High	County Budgets	Lehigh and Northampton County EMAs	Short	N/A
32	Develop county-level debris management plans for the Lehigh Valley. (7-B)	Local Plans and Regulations	Flood, Windstorm, Winter Storm	Low-Medium	Medium	County Budgets, FEMA EMPG	Lehigh and Northampton County EMAs	Long-term	N/A
33	Identify areas & specific residents who would need evacuation assistance, including residents who lack transportation, & develop evacuation assistance plans. (1-C)	Education and Awareness	All Hazards	Medium - High	Low - Medium	County Budgets, FEMA EMPG	LC & NC EMAs, working w/ County Human Services and municipalities	Short	N/A
34	Improve coordination and cooperation with colleges and universities in the Lehigh Valley to address their emergency management & service's needs, including mass gatherings /civil disturbance risks. (7-A)	Education and Awareness	All Hazards, spec. Civil Disturbance/ Mass Gathering	High	Low	County Budgets	LC & NC EMAs, working w/ college & university emergency services	Ongoing	N/A
35	Continue to design replacement bridges to Federal and State standards. (3-A)	Structure and Infrastructure	Flood	High	High	FEMA Mitigation Grant Programs, County Budget for local share	Northampton County DPW	Ongoing	Existing
36	Enhance the County website to create a place to consolidate public information related to disaster response and recovery (8-A)	Education and Awareness	All Hazards	Medium	Low	County Budget	Lehigh County EMA	2019	N/A

2018 Mitigation Action Plan – continued

Mitigation Action & (Goal – Objective #)		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
37	Continue to review SARA site plans to ensure they are capturing critical facilities surrounding their facility. (3-A)	Structure and Infrastructure	Environmental Hazards/ Explosion, Terrorism	Medium	Low	County Budgets/ LEPC	Lehigh and Northampton County EMAs	Lehigh County: Ongoing; Northampton County: Short	Both
38	Continue to provide County Hazmat Team tours of large & new SARA facilities w/in the county to maintain familiarization of facility layouts and build working relationships with facility owners and operators. (7-A)	Structure and Infrastructure, Education and Awareness	Environmental Hazards/ Explosion	Low	Low	County Budget	Lehigh County EMA	Ongoing	Both
39	Revise Lehigh County Evacuation Plan (7-B)	Local Plans and Regulations	Flood, Wildfire, Windstorm/ Tornado, Dam Failure, Environmental Hazards/ Explosion, Fire (Urban/ Structural), Levee Failure, Civil Disturbance/ Mass Gathering, Nuclear Incident, Terrorism	Low	\$5,000	Grants	Lehigh County EMA	Long-Term	N/A
40	Revise Mass Care and Shelter Plans (7-B)	Local Plans and Regulations	All Hazards	Low	Low	County Budget	Lehigh County EMA	Ongoing	N/A

2018 Mitigation Action Plan – continued

	Mitigation Action & (Goal – Objective #)	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
41	Work with American Red Cross of the Lehigh Valley to revise & update the Lehigh County & Northampton County list of Evacuation / Warming Center & Shelter locations. Conduct Site Surveys for all facilities on the current list & include new facilities that may be utilized during emergencies. (7-B)	Education and Awareness	All Hazards	Lehigh County: High; Northampton County: Medium	Low	LC: County Funding/ Staff Time, & American Red Cross Staff / Volunteer Time; NC: County Budget	Lehigh and Northampton County EMAs/ American Red Cross	Lehigh County: Ongoing; Northampton County: Short	N/A
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. (7-D)	Education and Awareness	All Hazards	Low-Medium	Low	County Funding / Staff Time, Local Hospitals, American Red Cross, Allentown/ Bethlehem Health Bureaus and Volunteer Time	Lehigh County EMA, Allentown/ Bethlehem Health Bureau and American Red Cross	Ongoing	N/A
43	Continue to update Points of Dispensing (POD) locations and plans. (7-A)	Local Plans and Regulations, Education and Awareness	Pandemic and Infectious Disease	Low	Low	County Budget, Allentown Health Bur., Northeast District Office of Dept. of Health, EMA	LCEMA, Allentown Health Bureau, Northeast District Office of Dept. of Health	Ongoing	N/A

2018 Mitigation Action Plan – continued

Mitigation Action & (Goal – Objective #)		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
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. (7-A)	Education and Awareness	All Hazards	Medium	Low	County Budgets	Lehigh and Northampton County EMAs/ PA-VOAD	Ongoing	N/A
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. (7-C)	Education and Awareness	All Hazards	Ongoing	Low	County Budget	Lehigh County EMA	Ongoing	Both
46	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. (5-A)	Local Plans and Regulations	All Hazards	Medium	Low	County Budget	Lehigh County EMA	Short-Term	Both
47	Provide training opportunities for First Responder community on Disability Awareness and Cultural Diversity. (7-A)	Education and Awareness	All Hazards	Low	Low	County Funding	Lehigh County EMA	Ongoing	N/A
48	Conduct Mass Casualty Exercises (7-A)	Education and Awareness	All Hazards	Low	Low	HSGP	LCEMA, Hospitals, EMS, Fire and Police	Ongoing	N/A

2018 Mitigation Action Plan – continued

Mitigation Action & (Goal – Objective #)		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
49	Update the Emergency Operations Center (7-D)	Structure and Infrastructure	All Hazards	Low	Medium	HSGP	Lehigh County EMA	Ongoing	Existing
50	Enhance THIRA process to identify resource gaps. (5-A)	Education and Awareness	All Hazards	Low	Low	Staff Time	Lehigh County EMA	Ongoing	N/A
51	Purchase of necessary response vehicles and equipment for all-hazard response to disasters. (7-D)	Structure and Infrastructure	Environmental Hazards/ Explosion, Terrorism	High	High	Lehigh County's Capital Projects Plan	Lehigh County EMA	2018-2021	N/A
52	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 backup generator if there is a failure. (7-D)	Structure and Infrastructure	All Hazards	Medium	Medium	County Budget/ Grants	Northampton County EMA	Short DOF	Existing
53	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 backup generator if there is a failure. (7-D)	Structure and Infrastructure	All Hazards	Medium	Medium	County Budget/ Grants	Northampton County EMA	Short DOF	Both
54	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. (7-D)	Structure and Infrastructure	All Hazards	Medium	Medium	County Budget / Grants	Northampton County EMA	Short – Medium DOF	Existing

2018 Mitigation Action Plan – continued

Mitigation Action & (Goal – Objective #)		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
55	Update/enhance security at County of Northampton critical facilities such as communication tower sites. Update/install fencing, update security cameras, etc. (7-D)	Structure and Infrastructure	Terrorism	Medium	Medium	County Budget/ Grants	Northampton County EMA	Medium DOF	Both
56	Funding for training programs for first responders within the County of Northampton. (7-A)	Education and Awareness	All Hazards	Medium	Low	County Budget/ Grants/ LEPC/ PEMA/ FEMA	Northampton County EMA	Short	N/A
57	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. (1-B)	Structure and Infrastructure	Flood, Drought, Dam Failure, Levee Failure	Medium	Medium	County Budget/ Grants	Northampton County EMA	Medium DOF	N/A
58	Create/update/expand on Community Emergency Response Team (CERT) program & ServPA program. (7-A)	Structure and Infrastructure	All Hazards	Medium	Low	County Budget/ PEMA/ Grants	Northampton County EMA	Short	N/A
59	Generators at fueling stations (7-D)	Structure and Infrastructure	All Hazards	Medium	Low	PDM	LC EMA, NC EMA	Ongoing	Both

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 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):

- **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