

Catasauqua Borough, Lehigh County Annex

Hazard Mitigation Plan Points-of-Contact

Primary:

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Alternate:

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Municipal Profile

Catasauqua Borough is located in eastern Lehigh County, its northern border shared with the boundary of Northampton County. Located three miles north of the City of Allentown, Catasauqua is a suburban borough covering a small area of 1.3 square miles, and has a population of 6,599 (2019 Census Estimate). The borough is bordered by North Catasauqua and Allen Township, both in Northampton County, to the north; Hanover township (Lehigh County) to the east and south; and Whitehall Township to the west.

The Lehigh River is the only significant body of water in Catasauqua Borough, and forms the borough's western border.

The main roadways serving Catasauqua Borough from the west include Race Street and Pine Street, both coming from Whitehall Township and crossing the Lehigh River. Race Street runs east-west along the southern edge of the borough, and continues east as SR 1004 providing access to the Lehigh Valley International Airport and SR 987. Howertown Road is the main north-south roadway linking, Catasauqua to Northampton County in the north and Lehigh Street for points to the south.

Municipal Participation

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

Brian Mckittrick, Public Safety Chair
Role: Public Safety Committee

Remington & Vernick Engineers, Inc., Borough Engineer
Role: Engineer

Debra Mellish, Planning and Zoning Chair
Role: Planner

Glenn Eckhart, Borough Manager / Floodplain Administrator
Role: Borough Manager / Floodplain Administrator

Joseph M. Carl, Emergency Management Coordinator
Role: Emergency Management

Greg Hoch, Deputy Emergency Management Coordinator
Role: Emergency Management

Municipal Participation – continued

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

Catasauqua Public Safety Committee
 Catasauqua Planning and Zoning Committee
 Catasauqua Main Streets Committee

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

Public will be engaged via public meetings of the above committees and organizations, through the use of the Emergency Management page on the Borough Website, and via Facebook and Tumblr social media sites. Targeted or interested parties will also be kept abreast of activities via emails.

Compliance with the National Flood Insurance Program (NFIP)

Topic	Identify source of information, if different from the one listed.	Additional Comments
1. Staff Resources		
Is the Community Floodplain Administrator (FPA) or NFIP Coordinator certified?	Community FPA	No
Is floodplain management an auxiliary function?	Community FPA	Yes
Provide an explanation of NFIP administration services (e.g., permit review, GIS, education or outreach, inspections, engineering capability)	Community FPA	Floodplain administration occurs via community outreach, inspections and engineering studies.
What are the barriers to running an effective NFIP program in the community, if any?	Community FPA	Time constraints, availability of certified personnel to perform more detailed work, cost of an expanded program
2. Compliance History		
Is the community in good standing with the NFIP?	State NFIP Coordinator, FEMA NFIP Specialist, or community records	Yes
Are there any outstanding compliance issues (i.e., current violations)?		None at this time
When was the most recent Community Assistance Visits (CAV) or Community Assistance Contact (CAC)?		Unknown
Is a CAV or CAC scheduled or needed?		Unknown

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

Topic	Identify source of information, if different from the one listed.	Additional Comments
3. Regulation		
When did the community enter the NFIP?	NFIP Community Status Book	7/2/2004
Are the Flood Insurance Rate Maps (FIRMs) digital or paper? How are residents assisted with mapping?	Community FPA	Borough has paper FIRMS
Do floodplain regulations meet or exceed FEMA or State minimum requirements? If so, in what ways?	Community FPA	Flood plain regulations meet state minimum requirements
Describe the permitting process	Community FPA, State, FEMA NFIP	Permitting process is completed via the building permit process and associated engineering studies for borough zoning and building codes
4. Insurance Summary		
How many NFIP policies are in the community? What is the total premium and coverage?	State NFIP Coordinator or FEMA NFIP Specialist	Approximately 7 claims
How many claims have been paid in the community? What is the total amount of paid claims? How many substantial damage claims have there been?	FEMA NFIP or Insurance Specialist	113
How many structures are exposed to flood risk within the community?	Community FPA or GIS Analyst	N/A
Describe any areas of flood risk with limited NFIP policy coverage	Community FPA or FEMA Insurance Specialist	Approximately 7 claims
5. Community Rating System (CRS)		
Does the community participate in CRS?	Community FPA, State, or FEMA NFIP	No
If so, what is the community's CRS Class Ranking?	Flood Insurance Manual (http://www.fema.gov/floodinsurancemanual.gov)	
What categories and activities provide CRS points and how can the Class be improved?		
Does the plan include CRS planning requirements?	Community FPA, FEMA CRS Coordinator, or ISO representative	

Community Assets

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

1. People

- Concentrations of vulnerable populations such as the elderly, physically or mentally disabled, non-English speaking, and the medically or chemically dependent.

Catasauqua High Rise – Senior Citizen High rise Apartments

Catasauqua Apartments – Elderly Housing

Pyramid Health Care – Addiction Treatment Center

The borough also contains a public elementary school, a public middle school and a charter school for high school aged individuals.

- Types of visiting populations where large numbers of people are concentrated such as visitors for special events and students.

Catasauqua School District – Alumni Field, School District Athletic Fields

Catasauqua School District – Thomas Field, Mixed Use Athletic Field

Catasauqua School District – Sheckler School, Mixed Use Athletic Fields

Opportunity Field – Youth Association Athletic Fields

Catasauqua Playground, Pool and Amphitheater – Municipal Recreation Facility

Candy Cane Park – Municipal recreation Facility

George Taylor Home – Municipal Historic Site

2. Economy

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

Catasauqua Borough being primarily residential in nature does not contain many large commercial centers or large employers. Most commercial facilities are small in size and are generally within a few blocks of the Lehigh River. Several businesses are located along the Catasauqua Creek in the area north of Race Street including a metal fabrication shop, auto body repair shops and a heating and air conditioning contractor, which employ a number of people. Phoenix Forging on Front Street is a large metal forge shop that employs a number of persons.

Community Assets – *continued*

3. Natural Environment

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

Catasauqua Playground, Pool and Amphitheater

Flood protection and erosion control walls running most of the length of the park protect facilities from flooding and erosion control.

Stein's Field – park land along the Catasauqua Creek that generally floods prior to downstream areas holding back potential floodwaters.

4. Built Environment

- Existing structures such as, concentrations of buildings that may be more vulnerable to hazards based on location, age, construction type and / or condition of use.

Most of the downtown area of Catasauqua bordering the Lehigh River contains large concentrations of buildings built in the 1800's. Many of these structures are rather large homes, mixed occupancies and former industrial facilities that have been converted to apartments or multi-family residences. These structures are also constructed adjacent or in close proximity to each other and high-density populations that increase the hazards.

- Infrastructure systems such as water and wastewater facilities, power utilities, transportation systems, communication systems, energy pipelines and storage.

Catasauqua maintains its own water works and sewage treatment facilities within borough limits. In addition Catasauqua is also home to a 138Kv electrical transmission line and substation which supplies approximately 25MW of power to the general area. A petroleum pipeline also traverses residential areas in the southern portion of the borough. A natural gas transmission line borders the eastern, southern boundaries of the borough just outside borough limits and on the opposite side of the Lehigh River, which is the borough's western boundary. Catasauqua is also home to a Verizon switching station for local telephone communications, a fiber optic communications line running adjacent to the Norfolk Southern Railroad's Lehigh Line, which makes up the borough's western boundary running parallel to the Lehigh River. Although not in the borough, the Borough of Catasauqua is adjacent to the Lehigh Valley International Airport with flight paths directly over the borough.

Community Assets – *continued*

- High potential loss facilities such as, dams, locations that house hazardous materials, military and / or civilian defense installations.

At this time, Catasauqua does not include any of these types of facilities, although at least 2 SARA Title 3 facilities are located within the borough, which include a municipal water works and a telephone company switching station. A manufacturing company also maintains radioactive x-ray equipment. Being located along the Lehigh River, Catasauqua is exposed to potential flooding from two large Army Corps of Engineers flood control dams located upstream in the event of onsite emergencies or dam failure at these facilities.

- Critical facilities such as, hospitals, medical facilities, police and fire stations, emergency operations centers, shelters, schools and airports / heliports.

In Catasauqua proper, there is 1 addiction treatment center. The Borough's Municipal Complex contains the borough's police and fire stations and a dedicated emergency operations center. Catasauqua also is home to 1 elementary school, 1 middle school and 1 charter school for high school aged students. All of these schools and approximately 10 churches are potential shelter sites during an emergency. There are also 7-day care centers in the borough of Catasauqua. As stated previously, the borough is adjacent to the Lehigh Valley International Airport.

- Cultural / historical resources such as, museums, parks, stadiums, etc.

The borough maintains numerous parks and recreational facilities, which include:

1. Catasauqua School District – Alumni Field, School District Athletic Field
2. Catasauqua School District – Thomas Field, Mixed Use Athletic Field
3. Catasauqua School District – Sheckler School, Mixed Use Athletic Fields
4. Opportunity Field – Youth Association Athletics Fields
5. Catasauqua Playground, Pool and Amphitheater – Municipal Recreation Facility
6. Candy Cane Park – Municipal Recreation Facility
7. George Taylor Home – Municipal Historic Site that also contains a museum
8. Catasauqua Public Library – a public library within the borough

Capability Assessment

Capability	<ul style="list-style-type: none"> ✓ Regulatory ✓ Tools ✓ Programs 	Status			Department / Agency Responsible	Effect on Hazard Loss Reduction: -Supports -Neutral -Hinders	Change since 2013 Plan? + Positive - Negative	Has the 2013 Plan been integrated into the Regulatory Tool/Program ? If so, how?	How can these capabilities be expanded and improved to reduce risk?	Additional Comments
		In Place	Date Adopted or Updated	Under Development						
1. Planning & Regulatory	Comprehensive Plan	X	8/2/1999		Planning Commission	Supports	No Change	No	Via further plan updates	
	Capital Improvement Plan									
	Economic Development Plan									
	Continuity of Operations Plan			X	Emergency Management	Supports	No Change	Yes in the development stages	Completed plan	Current EOP under revision will contain a COOP plan
	Stormwater Management Plan / Ordinance	X	10/4/2004		Planning and Building	Supports	No Change	No	Via further plan updates	
	Open Space Management Plan (or Parks/Rec., Greenways Plan)									
	Natural Resource Protection Plan									
	Transportation Plan									
	Historic Preservation Plan									
	Floodplain Management Plan									
	Farmland Preservation									
	Evacuation Plan	X	Adopted 2008, updated yearly		Emergency Management	Supports	Positive	Yes	Via further plan updates	
Disaster Recovery Plan										

Capability Assessment – continued

Capability	✓ Regulatory ✓ Tools ✓ Programs	Status			Department / Agency Responsible	Effect on Hazard Loss Reduction: -Supports -Neutral -Hinders	Change since 2013 Plan? + Positive - Negative	Has the 2013 Plan been integrated into the Regulatory Tool/Program ? If so, how?	How can these capabilities be expanded and improved to reduce risk?	Additional Comments
		In Place	Date Adopted or Updated	Under Development						
1. Planning & Regulatory	Hazard Mitigation Plan	X	3/13/2013		Emergency Management and Counties	Supports	Positive	Yes		
	Emergency Operations Plan	X	Adopted 2008, updated yearly		Emergency Management	Supports	Positive	Yes	Via further plan updates	
	Zoning Regulations	X	36924		Zoning	Supports				
	Floodplain Regulations	X			Zoning and Building	Supports				
	NFIP Participation	X			Zoning and Building	Supports				
	Building Code	X	38145		Building Official	Supports	Positive			
	Fire Code	X	Updated 2016		Building Official	Supports	Positive	Yes		
	Other									

Capability Assessment – continued

Capability	✓ Staff ✓ Personnel ✓ Resources			Department / Agency	Change since 2013 Plan? + Positive - Negative	How can these capabilities be expanded and improved to reduce risk?	Additional Comments
		Yes	No				
2. Administrative & Technology	Planners (with land use / land development knowledge)	X		Building Official, Code Enforcement and Engineer	No		
	Planners or engineers (with natural and / or human-caused hazards knowledge)	X		Engineer	No		
	Engineers or professionals trained in building and / or infrastructure construction practices (including building inspectors)	X		Engineer	No		
	Emergency Manager	X		Emergency Management	No		New municipal complex contains a dedicated Emergency Operations Center
	Floodplain administrator / manager	X		Borough Manager	No		
	Land surveyors	X		Engineer	No		
	Staff familiar with the hazards of the community	X		Emergency Management	No		
	Personnel skilled in Geographical Information Systems (GIS) and / or FEMA's HAZUS program		X		No		
	Grant writers or fiscal staff to handle large / complex grants	X		Borough Manager	No		
	Other						

Capability Assessment – continued

Capability		Yes	No	Department / Agency	Change since 2013 Plan? + Positive - Negative	How can these capabilities be expanded and improved to reduce risk?	Additional Comments
3. Financial Resources	Capital improvement programming	X					Included construction of new municipal complex
	Community Development Block Grants (CDBG)	X		Borough Manager			
	Special purposes taxes		X				
	Gas / Electricity utility fees		X				
	Water / Sewer fees	X		Water / Sewer & Administration			
	Stormwater utility fees		X	Administration			
	Development impact fees	X		Administration			
	General obligation, revenue, and / or special tax bonds	X		Borough Manager			
	Partnering arrangements or intergovernmental agreements	X		Borough Manager			
	Other						

Capability Assessment – continued

Capability	✓ Program ✓ Organization			Department / Agency	Change since 2013 Plan? + Positive - Negative	How can these capabilities be expanded and improved to reduce risk?	Additional Comments
		Yes	No				
4. Education & Outreach	Firewise Communities Certification		X				
	StormReady Certification		X	Emergency Management			Under development with current emergency operations plan
	Natural disaster or safety-related school programs	X		Emergency Management			Safe Schools participation and active shooter drills at school district facilities.
	Ongoing public education or information programs such as, responsible water use, fire safety, household preparedness, and environmental education.	X		Emergency Management			Ongoing social media posts, participation at local events, open house programs at fire station and EOC
	Public-private partnership initiatives addressing disaster related issues.	X		Emergency Management			Communications with businesses in flood plains along with social media postings.
	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	X		Emergency Management			Safe Schools and also periodic meetings with Day Care Centers and High Rise Senior Housing Facilities, Community Registry program developed in accordance with the Lehigh Valley Center for Independent Living (LVCIL)
	Other						

Capability Assessment – continued

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			About the same capability as in previous plans
	Administrative and Technical		X			About the same capability as in previous plans
	Financial	X				Limited capabilities due to lower receipts for water and sewer billing and tax income due to COVID
	Education and Outreach			X		Capabilities have increased due to construction of the new borough complex and a dedicated EOC, the addition of a more robust website, social media usage and the new municipal complex, which provides for training and education areas not previously available. There is also increased participation and cooperation with the local school district.

Known or Anticipated Future Development / Redevelopment

Development / Property Name	Type of Development	Number of Structures	Location	Known Hazard Zone	Description / Status
Iron Works	Mixed Use	Unknown	West side of the 300 to 500 blocks of Front Street	Part of property is located in a flood zone	Borough has an agreement of sale with a developer for this site and demolition of existing buildings is underway to make the site suitable for new construction.
14 th St.	Residential	36	West side of 14 th St between Pearl St. and Bridge St.		Residential development has been proposed and currently working through the approvals process
14 th and Pearl Sts.	Residential	12	14 th and Pearl Streets		Residential development has been proposed, no time line set for development.

Natural & Non-Natural Event History Specific to Catasauqua Borough

Type of Event and Date(s)	FEMA Disaster # (if applicable)	Local Damage(s) or Loss(es)
Snowstorm – February 2014	N/A	Exact amount of monies received not available at time of completion of this form
Hailstorm – May 2015	N/A	Exact amount of monies received not available at time of completion of this form
Winter Storm Jonas – 1/2016	DR-4267-PA	Exact amount of monies received not available at time of completion of this form
Pennsylvania COVID-19 Pandemic – 1/2020	DR-4506-PA	Emergency Protective measures to combat COVID-19 Pandemic.
Civil Protest - Summer 2020	N/A	Emergency Protective measures to provide security for civil protest
Catasauqua Food Bank Support – Spring / Summer 2020	N/A	Assisted local food bank with increased demands and shortage of food for distribution to those in need

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	Borough of Catasauqua Wastewater Treatment Plant Floodwall – 18 W. Race St. (rear) along Lehigh River: Build floodwall along Lehigh River to protect treatment plant from flooding. Plant has experienced flooding of equipment numerous times in recent years. Flooding prohibits plant from effectively releasing treated water, and meeting treatment criteria. Plant is slated for upgrades and the floodwall has been suggested by DEP and the DRBC due to elevation concerns.				X		Floodwall at sewer plant built in conjunction with sewer plan upgrades. Action not carried through to 2018 Action Plan.
2	Resize piping of culvert adjacent to East Catty Woods, from 14th Street crossing to confluence with Catasauqua Creek – Resize piping at 14th and 10th Street crossings to handle increased runoff due to construction throughout the drainage area. Build Stormwater retention area to control and manage runoff. Stabilize culvert and manage flows at confluence within Catasauqua Creek. Debris removal from culvert. Recent flooding has caused street closures and damage to residences and businesses in the area (~\$2M damages).	X					No additional actions due to private property concerns and expense to perform work – water flow in this area has visibly increased due to additional industrial development just east of the Borough especially during times of heavy rainfall.
3	Critical Facility Monitoring - Upgrade and expand existing camera system for security of existing infrastructure and HAZMAT storage facilities at Catasauqua Water Works, wastewater treatment plant, Catasauqua pool, Fire Department, Police Department, Municipal Complex and Public Works facilities.			X			Additional cameras added as budget permits – Additional needs due to end of life timeline for existing cameras.
4	Catasauqua Playground / Creek Retention Wall – Repair/replace/update wall as needed to protect pool, pump station and park facilities from flooding and erosion. Most recent flood knocked down park fencing, filled pool with mud, and caused extensive damage to pump station.		X				Minor work performed on an as needed basis however, major reconstruction is required due to age of construction. Expense of work continues to delay considerable work toward this project – Additional flooding concerns are noted due to increased water flows in the Catasauqua Creek watershed due to construction projects north and east of the Borough especially in times of heavy rainfall.

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	
5	Fire/Police Public Education Outreach Program - Expand fire-prevention effort beyond school and emergency preparedness public education through an enlarged and enhanced periodic emergency preparedness fair, to improve preparedness on the part of citizens to equip themselves for an emergency and understand the current information and warning systems in place.			X			Outreach programs continue on a continuous basis. These have increased in recent years with schools, senior high-rise buildings, day care centers and the public library. A new House of Hazards is currently under construction to support the outreach program.
6	Construct a Borough - wide low power AM radio station to supplement alerting and notification systems	X				X	Expense and lack of grant monies available have hampered any movement on this project. Project replaced with Action #24 in the 2018 Action Plan.
7	Borough Fire Department/Emergency Management Agency/Police Department Upgrades - Upgrade/construct new facilities to replace 100yr old fire stations, outdated police station, and build and equip an EOC with backup power, sleep facilities. Needed is a structurally sound building capable of operating as an EOC and potential shelter. Current facilities are unsound and inadequate to support emergency operations on normal basis let alone during a disaster.				X		A new municipal complex was completed in 2017, which houses new and upgraded fire and police facilities and a dedicated emergency operations center. Action not carried through to 2018 Action Plan.
8	Inundation areas for upstream dam failure	X					Much of the borough's aging downtown is located within flood zones along the Lehigh River and Catasauqua Creek. Expense is a hindering factor

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	<p>Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Specifically identified are structures located in the following areas:</p> <ul style="list-style-type: none"> - Catasauqua Creek flood plains - Lehigh River flood plains - Wood Street Bridge (lower priority) <p>Phase 1: Identify appropriate candidates for retrofitting based on cost effectiveness versus relocation. Phase 2: Where retrofitting is determined to be a viable option, work with property owners toward implementation of that action based on available funding from FEMA and local match availability.</p>		X				Plans are underway to reduce flooding via the planned construction of a new Race St and Walnut St bridges over the Catasauqua Creek.
10	<p>Purchase, or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Specifically identified are structures located in the following areas:</p> <ul style="list-style-type: none"> - Catasauqua Creek flood plains - Lehigh River floodplains <p>Phase 1: Identify appropriate candidates for relocation based on cost effectiveness versus retrofitting. Phase 2: Where relocation is determined to be a viable option, work with property owners toward implementation of that action based on available funding from FEMA and local match availability.</p>	X					No work completed due to amount of borough subjected to potential flooding and expense of acquiring properties and relocations
11	<p>Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g. regulating all new and substantially improved construction in Special Hazard Flood Areas), floodplain identification and mapping, and flood insurance outreach to the community. Further, continue to meet and/or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified below.</p>			X			The borough maintains requirements of the NFIP program

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	
12	Conduct and facilitate community and public education and outreach for residents and businesses to include, but not be limited to, the following to promote and effect natural hazard risk reduction: Provide and maintain links to the HMP website, and regularly post notices on the County/municipal homepage(s) referencing the HMP webpages. Prepare and distribute informational letters to flood vulnerable property owners and neighborhood associations, explaining the availability of mitigation grant funding to mitigate their properties, and instructing them on how they can learn more and implement mitigation. Use email notification systems and newsletters to better educate the public on flood insurance, the availability of mitigation grant funding, and personal natural hazard risk reduction measures. Work with neighborhood associations, civic and business groups to disseminate information on flood insurance and the availability of mitigation grant funding. See also public education initiative above.			X			The borough maintains education regarding HMP via websites, emails and social media during times of considerable work and updates in this area
13	Begin the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements) and sinkhole risk (e.g. carbonate bedrock standards).	X					
14	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.	X					
15	Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM, and pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.	X					Floodplain administrator is not currently certified
16	Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This shall start with the submission to FEMA- DHS of a Letter of Intent to join CRS, followed by the completion and submission of an application to the program once the community's current compliance with the NFIP is established.	X					
17	Archive elevation certificates	X					
18	Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0			X			Upgrades performed in accordance with county hazard mitigation plan upgrade time frames

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	
19	Complete the ongoing updates of the Comprehensive Emergency Management Plans			X			EOP updated annually, major rewrite underway for early 2018 to accommodate new municipal complex
20	Create/enhance/maintain mutual aid agreements with neighboring communities for continuity of operations.			X			Mutual aid plans maintained as necessary and also participate in statewide mutual aid agreement
21	Identify and develop agreements with entities that can provide support with FEMA/PEMA paperwork after disasters; qualified damage assessment personnel – Improve post-disaster capabilities – damage assessment; FEMA/PEMA paperwork compilation, submissions, recordkeeping			X			Damage assessment is included in yearly emergency management training and updated as necessary
22	Work with regional agencies (i.e. County and PEMA) to help develop damage assessment capabilities at the local level through such things as training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).			X			Emergency management participates in yearly county sponsored emergency management training and performs damage assessment after significant events

Notes:

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

2018 Mitigation Action Plan

Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
1	Resize piping of culvert adjacent to East Catty Woods, from 14th Street crossing to confluence with Catasauqua Creek – Resize piping at 14th and 10th Street crossings to handle increased runoff due to construction throughout the drainage area. Build storm water retention area to control and manage runoff. Stabilize culvert and manage flows at confluence within Catasauqua Creek. Debris removal from culvert. Recent flooding has caused street closures and damage to residences and businesses in the area (~\$2MM damages).	Structure and Infrastructure	Flood	High	High	Federal, State, County and Municipal funding/ grant opportunities	EMA (with support from Borough Manager and Public Works)	Short-term	Existing
2	Critical Facility Monitoring - Upgrade and expand existing camera system for security of existing infrastructure and HAZMAT storage facilities at Catasauqua Water Works, wastewater treatment plant, Catasauqua pool, Fire Department, Police Department and Public Works facilities.	Structure and Infrastructure	All Hazards	High	Medium	Homeland Security Grants, Municipal funding	Police Department	Ongoing (depending upon funding)	Existing
3	Catasauqua Playground / Creek Retention Wall Repair / replace / update wall as needed to protect pool, pump station and park facilities from flooding and erosion. Most recent flood knocked down park fencing, filled pool with mud, and caused extensive damage to pump station.	Structure and Infrastructure	Flood	High	Medium	FEMA HMGP, Municipal Budget	Public Works	Ongoing (depending upon funding)	Existing

2018 Mitigation Action Plan – continued

Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
4	Fire/Police Public Education Outreach Program - Expand fire-prevention effort beyond school and emergency preparedness public education through an enlarged and enhanced periodic emergency preparedness fair, to improve preparedness on the part of citizens to equip themselves for an emergency and understand the current information and warning systems in place.	Education & Awareness	All Hazards	High	Low	Municipal Budget	EMA	Ongoing (depending upon funding)	N/A
5	Inundation areas for upstream dam failure	Local plans & Regulations	Flood, Earthquake	Medium	High	Federal, State and County funding opportunities	NFIP Coordinator/ EMA	Long-term (depending upon funding)	Existing
6	Retrofit structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Specifically identified are structures located in the following areas: - Catasauqua Creek flood plains - Lehigh River flood plains - Wood Street Bridge (lower priority) Phase 1: Identify appropriate candidates for retrofitting based on cost-effectiveness versus relocation. Phase 2: Where retrofitting is determined to be a viable option, work with property owners toward implementation of that action based on available funding from FEMA and local match availability.	Structure and Infrastructure	Flood, Earthquake	High	High	FEMA Mitigation Grant Programs and local budget (or property owner) for cost share	Municipality (via Municipal Engineer/NFIP Floodplain Administrator) with support from PEMA, FEMA	Long-term (depending upon funding)	Existing

2018 Mitigation Action Plan – continued

Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
7	<p>Purchase or relocate structures located in hazard-prone areas to protect structures from future damage, with repetitive loss and severe repetitive loss properties as priority. Specifically identified are structures located in the following areas: - Catasauqua Creek flood plains - Lehigh River floodplains Phase 1: Identify appropriate candidates for relocation based on cost-effectiveness versus retrofitting. Phase 2: Where relocation is determined to be a viable option, work with property owners toward implementation of that action based on available funding from FEMA and local match availability.</p>	Structure and Infrastructure	Flood	High	High	FEMA Mitigation Grant Programs and local budget (or property owner) for cost share	Municipality (via Municipal Engineer/NFIP Floodplain Administrator) with support from PEMA, FEMA	Long-term (depending upon funding)	Existing
8	<p>Maintain compliance with and good-standing in the NFIP including adoption and enforcement of floodplain management requirements (e.g. regulating all new and substantially improved construction in Special Hazard Flood Areas), floodplain identification and mapping, and flood insurance outreach to the community. Further, continue to meet and/or exceed the minimum NFIP standards and criteria through the following NFIP-related continued compliance actions identified below.</p>	Local plans & Regulations	Flood	High	Low - Medium	Municipal Budget	Municipality (via Municipal Engineer/NFIP Floodplain Administrator) with support from PEMA, ISO FEMA	Ongoing	New & Existing

2018 Mitigation Action Plan – continued

Mitigation Action	Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
<p>9 Conduct and facilitate community and public education and outreach for residents and businesses to include, but not be limited to, the following to promote and effect natural hazard risk reduction:</p> <ul style="list-style-type: none"> - Provide and maintain links to the HMP website, and regularly post notices on the County/municipal homepage(s) referencing the HMP webpages. - Prepare and distribute informational letters to flood vulnerable property owners and neighborhood associations, explaining the availability of mitigation grant funding to mitigate their properties, and instructing them on how they can learn more and implement mitigation. - Use email notification systems and newsletters to better educate the public on flood insurance, the availability of mitigation grants funding, and personal natural hazard risk reduction measures. - Work with neighborhood associations, civic and business groups to disseminate information on flood insurance and the availability of mitigation grant funding. See also public education initiative above. 	Education & Awareness	All Hazards	High	Low-Medium	Municipal Budget	Municipality with support from Planning Partners, PEMA, FEMA	Short-term	N/A

2018 Mitigation Action Plan – continued

Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
10	Begin and/or continue the process to adopt higher regulatory standards to manage flood risk (i.e. increased freeboard, cumulative substantial damage/improvements) and sinkhole risk (e.g. carbonate bedrock standards).	Local Plans and Regulations	Flood; Subsidence / Sinkholes	High	Low	Municipal Budget	Municipality (via Municipal Engineer / NFIP Floodplain Administrator) with support from PEMA, FEMA. LVPC for Carbonate Bedrock Standard model ordinance.	Short-term	New & Existing
11	Determine if a Community Assistance Visit (CAV) or Community Assistance Contact (CAC) is needed, and schedule if needed.	Local Plans and Regulations	Flood	Medium	Low	Municipal Budget	NFIP Floodplain Administrator with support from PA DEP, PEMA, FEMA	Short-term (1 year)	N/A
12	Have designated NFIP Floodplain Administrator (FPA) become a Certified Floodplain Manager through the ASFPM and/or pursue relevant continuing education training such as FEMA Benefit-Cost Analysis.	Local Plans and Regulations	Flood	High	Low	Municipal Budget	NFIP Floodplain Administrator	Short-term (depending upon funding)	N/A
13	Participate in the Community Rating System (CRS) to further manage flood risk and reduce flood insurance premiums for NFIP policyholders. This shall start with the submission to FEMA- DHS of a Letter of Intent to join CRS, followed by the completion and submission of an application to the program once the community's current compliance with the NFIP is established.	Local Plans and Regulations	Flood	Medium	Low	Municipal Budget	NFIP Floodplain Administrator with support from PA DEP, PEMA, FEMA	Short-term (1 year)	N/A

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Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
14	Obtain and archive elevation certificates for NFIP compliance.	Local Plans and Regulations	Flood	High	Low	Municipal Budget	NFIP Floodplain Administrator	Ongoing	N/A
15	Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Section 7.0	All Categories	All Hazards	High	Low – High (for 5-year update)	Local Budget, possibly FEMA Mitigation Grant Funding for 5-year update	Municipality (via mitigation planning point of contacts) with support from Planning Partners (through their Points of Contact), PEMA	Ongoing	New & Existing
16	Complete the ongoing updates of the Comprehensive Emergency Management Plans	Local Plans and Regulations	All Hazards	High	Low	Municipal Budget	Municipality with support from PEMA	Ongoing	New & Existing
17	Create/enhance/maintain mutual aid agreements with neighboring communities for continuity of operations.	All Categories	All Hazards	High	Low	Municipal Budget	Municipality with support from surrounding municipalities and County	Ongoing	New & Existing
18	Develop and maintain capabilities to process FEMA/PEMA paperwork after disasters; qualified damage assessment personnel – Improve post-disaster capabilities – damage assessment; FEMA/PEMA paperwork compilation, submissions, record keeping.	Education & Awareness	All Hazards	Medium	Medium	Municipal Budget	Municipality with support from County, PEMA, FEMA	Short-term	N/A

2018 Mitigation Action Plan – continued

Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
19	Work with regional agencies (i.e. County and PEMA) to help develop damage assessment capabilities at the local level through such things as training programs, certification of qualified individuals (e.g. code officials, floodplain managers, engineers).	Education & Awareness	All Hazards	Medium	Medium	Municipal budget, FEMA HMA grant programs	Municipality with support from County, PEMA	Short – Long-term (depending upon funding)	N/A
20	Increase storm water drainage capabilities and wetland protection and creation in the Catasauqua Creek Watershed to protect against and handle increased water runoff from large construction projects in neighboring municipalities. This includes improvements to current wall construction to protect public facilities, downstream properties and protection from erosion. This may also encompass upgrading or replacement of bridges over the Catasauqua Creek to handle increased water flows in the waterway.	Structure and Infrastructure	Flood, Levee Failure	High	\$3,000,000	Tax dollars, grants, private	Borough EMA	Beginning 2018 or depending upon funding	New & Existing
21	Purchase lands, protect wetlands and purchase equipment to protect municipal water system wells from development encroachment in neighboring municipalities, which affect the capabilities and capacities of the water system along with water quality.	Structure and Infrastructure	Utility Interruption, Flood, Drought	High	\$5,000,000	Tax dollars, water system fees, grants, private	Borough Water Department	Beginning 2018 or depending upon funding	Existing

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	Mitigation Action	Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
22	Increase storm water drainage capabilities and wetland protection and creation in the Lehigh River / Lehigh Canal Watershed to protect against and handle increased water runoff from large, planned, construction projects. This includes but is not limited to debris and obstruction removal from Lehigh Canal and planning for upstream dam failures.	Natural systems protection	Flood, Dam Failure	High	\$5,000,000	Tax dollars, grants, private	Borough EMA	Beginning 2018 or depending upon funding	New & Existing
23	Create additional emergency water system tie lines to neighboring water systems in the event area construction affects ground water tables and water quality in the Borough of Catasauqua Municipal Water System leaving wells unusable, contaminated, turbid, and decreased or no flow. This also applies to terrorism events on the water system. Enhancements also assist with Drought protection of the water system.	Structure and Infrastructure	Utility Interruption	High	\$5,000,000	Tax dollars, water system fees, grants, private, DEP	Borough Water Department	Beginning 2018 or depending upon funding	N/A
24	Increase and enhance all hazard warning system capabilities to provide more accurate and widespread communication to the public during an emergency. This may include construction of a low power AM radio station, and locate desirable replacements for no longer available internet based alerting programs and siren systems previously used and no longer functioning.	Education & Awareness	All Hazards	High	\$100,000	Tax dollars, grants, private	Borough EMA	Beginning 2018 or depending upon funding	N/A

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Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
25	Increase hardening of municipal water system control systems, municipal telephone systems, and municipal emergency power generation systems to protect against cyber-attacks, and other fabricated and natural hazards, which include but are not limited to electromagnetic pulses, geo-magnetic disturbances, seismic activity, utility outages, flooding and supply train concerns.	Structure and Infrastructure	Utility Interruption, Terrorism	Medium	\$1,000,000	Tax dollars, grants, private	Borough EMA	Beginning 2018 or depending upon funding	New & Existing
26	Increase capabilities and purchase equipment to provide warming and cooling stations, evacuation reception centers and evacuation shelters during but not limited to severe hot and cold weather events, utility outages, terrorism and various other fabricated and non-man-made hazard occurrences.	Local Plans and Regulations	All Hazards	High	\$10,000	Tax dollars, grants, private	Borough EMA	Beginning 2018 or depending upon funding	N/A
27	Increase capabilities, knowledge, and public information to plan for, monitor, and respond to climate change and invasive species events.	Education & Awareness	Drought, Extreme Temperature, Utility Interruption	Medium	\$50,000	Tax dollars, grants, private, DEP, Dept. of Agriculture, Homeland Security	Borough EMA	Beginning 2018 or depending upon funding	N/A

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Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
28	Increase planning, training and response capabilities for responding to acts of terrorism, active shooter, active attacker, multi-casualty incidents, cyber-attacks, and civil-unrest to provide increased security and response capabilities to include municipal facilities, school district facilities, elderly and low income housing facilities, day-care facilities, and health-care facilities and the public located in the Borough of Catasauqua.	Local Plans and Regulations	Terrorism, Mass Gathering	High	\$50,000	Tax dollars, grants, private, Homeland Security, school district, public housing, DPW	Borough Police Department	Beginning 2018 or depending upon funding	N/A
29	Increase capabilities, training, knowledge, and public information to plan for, monitor and respond to sinkholes, subsidence, seismic activity and other geologic-related hazards.	Structure and Infrastructure, Natural Systems Protection, Education and Awareness	Subsidence/ Sinkholes, Utility Interruption	High	\$100,000	Tax dollars, grants, private, DEP	Borough Public Works Department	Beginning 2018 or depending upon funding	N/A
30	Increase capabilities, equipment, training, knowledge, code enforcement and public information to plan for and respond to structural fires.	Local Plans and Regulations	Structural Fire	High	\$4,000,000	Tax dollars, grants, private, fire department donations	Borough Fire Department	Beginning 2018 or depending upon funding or status of existing equipment	New & Existing
31	Increase capabilities, equipment, training, knowledge, code enforcement and public information to plan for, monitor and respond to structural collapse.	Local Plans and Regulations	Building Collapse, Earthquake, Winter Storm, Subsidence/ Sinkholes	High	\$100,000	Tax dollars, grants, private, code enforcement fees	Borough Fire Department/Code Enforcement	Beginning 2018 or depending upon funding	New & Existing

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Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
32	Increase capabilities, equipment, training, knowledge, and public information to plan for, monitor and respond to instances of severe weather including but not limited to: high winds, flooding, hailstorms, winter storms, severe cold, severe heat, lightning, hurricanes and tornadoes.	Local Plans and Regulations	Flood, Hailstorm, Lightening, Wind Storm/ Tornado, Winter Storm	High	\$50,000	Tax dollars, grants, private	Borough EMA	Beginning 2018 or depending upon funding	N/A
33	Increase capabilities, equipment, training, knowledge, code enforcement and public information to plan for and respond to flood control and drainage corrective actions on roadways with recurring flooding.	Structure and Infrastructure	Flood	Medium	\$1,000,000	Tax dollars, grants, private, PennDOT	Borough Public Works Department	Beginning 2018 or depending upon funding	New & Existing
34	Increase capabilities, equipment, training, knowledge, and public information to plan for and respond to drought events. This action includes but is not limited to updating the Borough Drought Response Plan and municipal water system operational and contingency planning and upgrades.	Structure and Infrastructure	Drought, Utility Interruption	High	\$100,000	Tax dollars, grants, private, water system fees, DEP	Borough EMA, Water Department	Beginning 2018 or depending upon funding	N/A
35	Increase capabilities, equipment, training, knowledge, and public information to plan for and respond to nuclear incident facilities accidents or terrorism activities employing nuclear devices.	Local Plans and Regulations	Nuclear Incident, Terrorism	Medium	\$50,000	Tax dollars, grants, private, utilities, Homeland Security, PEMA, FEMA	Borough EMA	Beginning 2018 or depending upon funding	N/A

2018 Mitigation Action Plan – continued

Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
36	Increase capabilities, equipment, training, knowledge, and public information to plan for and respond to transportation emergencies including but not limited to pipeline accidents, aircraft crashes, rail accidents, mass transportation accidents, bus accidents, school bus accidents. This may also include road or infrastructure improvements to facilitate safe travel and reduce accident occurrences.	Local Plans and Regulations	Transportation Crash	Medium	\$100,000	Tax dollars, grants, private, transportation grants (public and private), airport authority grants, FAA grants, US DOT, PennDOT	Borough EMA	Beginning 2018 or depending upon funding	New & Existing
37	Coordinate with the County Emergency Management Agency and PA Department of Health, which is responsible for setting up points of distribution and providers for immunizations.	Local Plans and Regulations	Pandemic and Infectious Disease	Medium	Low	Municipal Budget	Municipality, working with County EMA and PA Department of Health	Ongoing	N/A
38	Devise an employee vaccination and immunization plan to prevent an outbreak within the municipal employee ranks.	Local Plans and Regulations	Pandemic and Infectious Disease	Medium	Low	Municipal Budget	Municipality	Short-term	N/A
39	Devise a municipal continuity of operations plan to keep essential services running in the event that a significant portion of the workforce is affected.	Local Plans and Regulations	Pandemic and Infectious Disease	Medium	Low	Municipal Budget	Municipality	Short-term	N/A
40	Devise a public education and outreach plan regarding disease prevention.	Education and Awareness	Pandemic and Infectious Disease	High	High	Municipal Budget	Municipality	Ongoing	N/A

2018 Mitigation Action Plan – continued

Mitigation Action		Mitigation Technique Category	Hazard(s) Addressed	Priority (H / M / L)	Estimated Cost	Potential Funding	Lead Agency / Department	Implementation Schedule	Applies to New and / or Existing Structures
41	Provide education and outreach to residents regarding how to prevent the spread of invasive species, including quarantine procedures.	Education and Awareness	Invasive Species	High	Low	Municipal Budget	Municipality	Ongoing	N/A
42	Develop a neighborhood cleanup plan designed to remove discarded tires, trash and other items in which standing water can form.	Education and Awareness	Invasive Species	High	Low	Municipal Budget	Municipality	Short-term	N/A
43	Provide training and education for first responders to ensure effective emergency care.	Education and Awareness	Drug Overdose Crisis	High	Low	Municipal Budget	Municipality	Ongoing	N/A
44	Provide education and outreach, especially in K-12, regarding drug abuse prevention.	Education and Awareness	Drug Overdose Crisis	High	Low	Municipal Budget	Municipality/ School District	Ongoing	N/A

Notes:

Estimated Costs:

- Where actual project costs have been reasonable estimated: Low = < \$10,000; Medium = \$10,000 to \$100,000; High = > \$100,000;
- Where actual project costs cannot reasonably be established at this time:
 - Low** = Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.
 - Medium** = Could budget for under existing work plan, but would require a reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
 - High** = Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.

Potential Funding (FEMA HMA):

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

Implementation Schedule:

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

Applies to New and/or Existing Structures:

- **N/A** = Not Applicable