

Amherst Hazard Mitigation Plan Update
Meeting 2 Minutes
3/14/22 2pm-4pm
Amherst Fire Rescue Station 1
177 Amherst Street
Amherst, NH 03031

Attendees:

Matt Conley	Fire Chief/EMD
Scott Tenney	Building Official/Health Officer
Nic Strong	Community Development Director
Eric Slosek	DPW Director
Craig Fraley	Recreation Director
Rob Clemens	Conservation Commission Chair
John Marcel	Hazard Mitigation Planner NH HSEM
Francis Tarasiewicz	Hazard Mitigation Coordinator NH HSEM
Donald Ware	Chief Operating Officer Pennichuck Water
Justin Kates	Decision Aid LLC (Consultant)

Meeting convened at 2:00pm

1. Review Natural Hazards in Amherst

Hazard	NH HMP	NRI
Drought	Yes	Yes
Earthquake	Yes	Yes
Extreme Temperatures	Yes	Yes (Cold Wave & Heat Wave)
Flooding	Yes (Inland Flooding)	Yes (Riverine Flooding)
Fluvial Erosion	No	No
Hurricane/Severe Wind	Yes (Tropical and Post-Tropical Cyclones)	Yes (Hurricane)
Severe Thunderstorm/Lightning	Yes (Lightning)	Yes (Lightning)
Severe Winter Weather	Yes	Yes (Ice Storm & Winter Weather)
Tornado/Downburst	Yes (High Wind Events)	Yes (Strong Wind &

		Tornado)
Wildfire	Yes	Yes
	Avalanche	Yes
	Coastal Flooding	Yes
	Infectious Diseases*	No
	Landslide	Yes
	Solar Storm and Space Weather	No
		Hail
		Tsunami
		Volcanic Activity

State Hazards (Page 43):

https://prd.blogs.nh.gov/dos/hsem/wp-content/uploads/2015/11/State-of-New-Hampshire-Multi-Hazard-Mitigation-Plan-Update-2018_FINAL.pdf

The group discussed if it made sense to keep fluvial erosion in the plan as it is a slow moving hazard and has been removed from the state and other neighboring plans. We will keep language in the plan regarding fluvial erosion and copy the information from the existing plan.

It was decided to utilize the new terminology for hazards and split them up based on the National Risk Index. Avalanche, coastal flooding, tsunami, and volcanic activity will not be included in the report as they are not applicable to Amherst. Infectious diseases will not be included in this report as they are already covered in the Greater Nashua Public Health Network plans. Hail, landslide, and solar storm and space weather will be added. Extreme temperatures will be split into heat wave and cold wave. Lightning will be considered as a separate hazard.

2. Reviewed Previous Occurrences of Hazards

https://www.nashuarpc.org/files/2014/6644/9675/Amherst_HazMit_Update2015.pdf
(Pages 29-43)

Drought Discussion: Pennichuck Water is pretty drought resistant due to the redundancy in water sources with the Merrimack River and Pennichuck Brook. Dug wells are more impacted than artesian wells

Don Ware can provide more info on the areas they serve within Amherst to get an indication of which areas of the town are vulnerable due to wells. PFAS has moved a number of properties to public water. While not related to natural hazards, it has reduced drought risk for numerous parcels. NH DES would be a good place to reach out to in order to see where potential future moves to public water would be, testing is currently going on in the business park. There are also private community wells near Baboosic Lake.

Extreme Cold Discussion: Extreme cold impacts the community septic, right on the lake, about 48 units impacted

Riverine Flooding Discussion: There are two flood gauges on the Souhegan River, one in Milford and one in Merrimack.

<https://waterdata.usgs.gov/monitoring-location/01093852/#parameterCode=00065&period=P7D> &

<https://waterdata.usgs.gov/monitoring-location/01094000/#parameterCode=00065&period=P7D>

Because of the instream flow rules, NH DES

(<https://www.des.nh.gov/water/rivers-and-lakes/instream-flow>), this might have high end flooding data. Best point of contact for this may be Wayne Ives

(wayne.ives@des.nh.gov). Flooding along Lynch Road typically occurs because of beaver dams and an undersizing of culvert. There's also restricted flow under Spring Road. Beaver Brook also floods. Houses in the back of Thatcher Dr, and property behind Town Hall.

Climate Discussion: We will be using the Hillsborough County data from the US Climate Explorer

(https://crt-climate-explorer.nemac.org/cards_home/?city=Amherst%2C+NH&county=Hillsborough%2BCounty&area-id=33011&fips=33011&zoom=7&lat=42.8614748&lon=-71.6253487). First Street Foundation (<https://firststreet.org/>) has some good data for climate impacts. There's also the Climate Change in Southern NH Report from UNH (Cameron Wake)

(<https://scholars.unh.edu/cgi/viewcontent.cgi?article=1002&context=sustainability>) and the water related studies that NRPC did

(<https://www.nashuarpc.org/files/9714/9138/5945/NashuaRegionWaterResiliencyActionPlan.pdf>) & <https://www.nashuarpc.org/files/3514/9138/6003/WaterResilAppendixA-G.pdf>)

Tropical Cyclone Discussion: Most notable recent storms are Tropical Storm Isaias and Henri

Wildfire Discussion: Beechtree Way off of County Road did have a fire, illegal burning 2016? Chief Conley will get data on brush fires from their records

Severe Wind Discussion: Severe wind event from October 2017 was significant

We will review neighboring community historical events for other recent hazard data:

Merrimack (East) (2021)

https://www.nashuarpc.org/files/7016/2756/9929/Merrimack_HazMit_Update2021_FINAL.pdf (Page 30)

Mont Vernon (Northwest) (2021)

https://www.nashuarpc.org/files/4016/4150/0311/MontVernon_HazMit_FINAL_APPROVED_10.11.2021.pdf

Hollis (South) (2018)

https://www.nashuarpc.org/files/7415/4352/2024/Hollis_HazMit_Update2018.pdf

Bedford (Northeast) (2015)

<https://www.bedfordnh.org/DocumentCenter/View/355/2015-Hazard-Mitigation-Plan-PDF>

New Boston (Northwest) (2016)

https://www.snhpc.org/sites/g/files/vyhli5006/f/uploads/new_boston_hazard_mitigation_plan_2016.pdf

3. Review Probability of Future Hazard Events

Reviewed existing process:

https://www.nashuarpc.org/files/2014/6644/9675/Amherst_HazMit_Update2015.pdf

(Pages 44-57)

Current process used to determine probability is by taking the total number of events for a particular hazard and dividing that by the number of years being assessed

In addition, the plan assesses this calculation twice for each hazard. One time for recent occurrences within the last few years and another for the “all recorded history”

It is recommended we use a new process to assess probability using the National Risk Index (NRI). This methodology is well defined and more accurate:

<https://hazards.fema.gov/nri/map>

Census Tracts for Amherst: 015100 & 015200

NRI Report is attached to the minutes

4. Review Critical Facilities and their Vulnerabilities

Review existing process:

https://www.nashuarpc.org/files/2014/6644/9675/Amherst_HazMit_Update2015.pdf

(Pages 47-62)

What changes have occurred to critical infrastructure and buildings since the last plan update? No changes to childcare centers (will review DHHS Childcare Database). No changes in important stores, although there is a new Ashley Furniture warehouse. The Town is now responsible for the Buckmeadow Golf Club as a recreational facility. There

is one less medical practice - Elliot 199 Route 101 (review DHHS licensed healthcare facilities database for changes). Will need to identify if there are any new flood prone roads in new housing developments from the last five years. Other roads/bridges that have should be considered include Horace Greeley Road Bridge over Pulpit Brook, 485 Boston Post Road culverts, and Manchester Road over Beaver Brook. Take a look at NRPC culvert assessment data. If we can get some GIS support, it would be helpful to identify the roads that are within the flood plain. The Amherst Radio Communications equipment listed is likely in New Boston. The listed switching stations are related to phone infrastructure. Curtis well is Milford's well, owned by the Town of Milford - access is through Amherst only. Pennichuck has three pumping stations, one near high school near Boston Post Road (history of flooding) near the Souhegan River, this is the primary feed into Amherst Village. Other is near Amherst Street going towards Milford, part of Founders Way, feeds water out to Milford. Third station below ground water into Milford, problematic when there was flooding. Pennichuck has two water storage tanks. There's also a private community well, look at NH DES water supply maps for further info.

5. Review Vulnerability by Hazard

Reviewed existing process:

https://www.nashuarpc.org/files/2014/6644/9675/Amherst_HazMit_Update2015.pdf

(Page 63-84)

- Step 1. Determine percent building damage ratio to single family residence from F2 tornado Wood Frame Construction, Low general tornado design level = 50% building damage Source: Amherst Hazard Mitigation Team
- Step 2. Determine percent of structures in Amherst that would be damaged by F2 tornado 1% of structures estimated to be damaged by F2 tornado Source: Amherst Hazard Mitigation Team (no historical data on tornado damage in Amherst)
- Step 3. Determine total assessed value of structures in Amherst Total Assessed Value of all Structures in Amherst = \$1,066,039,350 Source: Amherst Assessing Department (2014)
- Step 4. Determine total loss from F2 Tornado Total Loss from Tornado = Total Assessed Value of all Structures * Percentage of Structures Estimated to be Damaged * Percent Building Damage Ratio Total Loss from Tornado = $\$1,066,039,350 * .01 * .5 = \$5,330,196.75$

Potential New Process:

<https://hazards.fema.gov/nri/map>

Census Tracts in Amherst: 015100 & 015200

The National Risk Index includes both Annual Loss and Social Vulnerability. Report is attached.

6. Next meeting will be April 11th, 2022 from 2pm-4pm at Amherst Fire Station. Focus will be on future development trends and reviewing the status of previous mitigation actions.