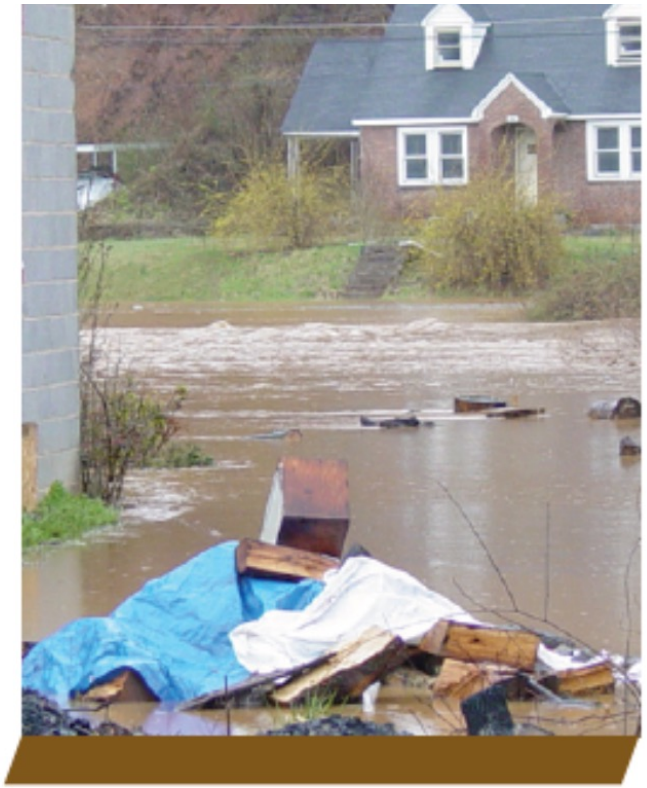


West Piedmont Planning District Commission
Regional Hazard Mitigation Plan Update 2021

Danville LPT Meeting #1

February 26, 2021

Agenda

1. Purpose and Need for Hazard Mitigation Plan
   - Long Term Goals of Hazard Mitigation
2. Update on Hazard Mitigation Grant Programs
   - How Can the Plan be Used?
3. Hazards to Include in the Plan
4. Introduction to Hazard Mitigation Strategies and Actions
5. Components of the Planning Process
6. Data Review and Update Discussion

Purpose and Need for a Plan Update

Authority

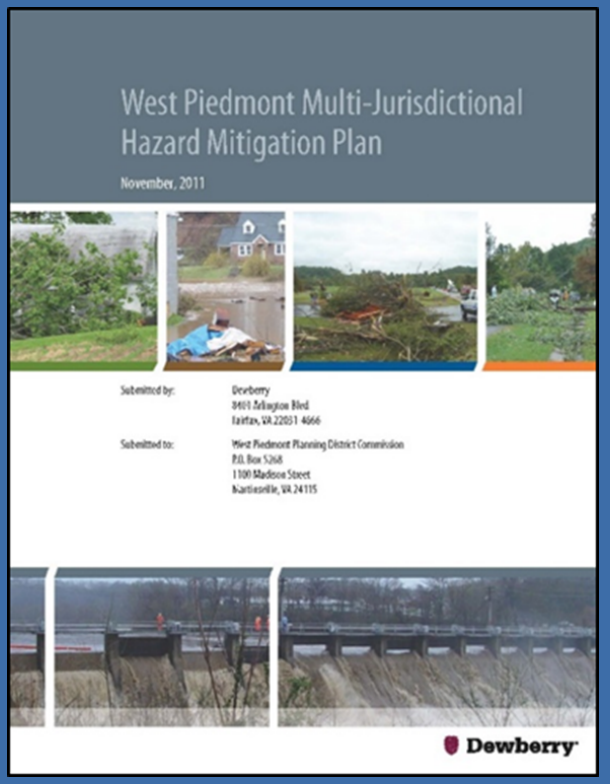
- Disaster Mitigation Act of 2000 (amendments to Stafford Act of 1988)

Goal of Disaster Mitigation Act

- Encourage disaster preparedness
- Encourage hazard mitigation actions to reduce losses of life and property

Status of WPPDC HM Plans

- Initial plan created in 2006 and updated through 2016
- Local plans are updated every five years
- The VA State HMP is on a similar 5-year cycle



Purpose and Need for a Plan Update

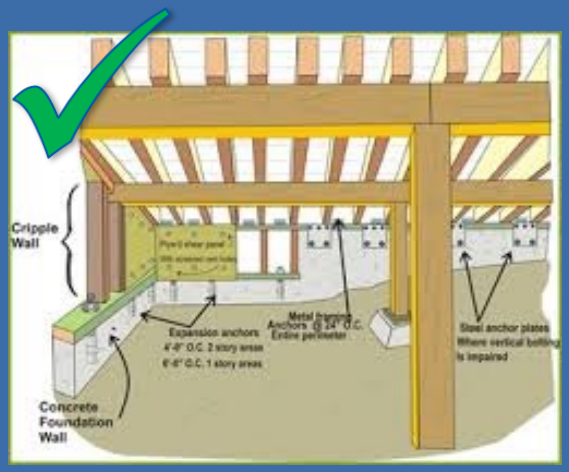
What is a natural hazard?

- An extreme natural event that poses a risk to people, infrastructure, and resources.

What is Mitigation?

Any sustainable action that will** reduce **or** eliminate **injury to citizens, damages to structures and allow continuity of critical society functions

Mitigation
Defensible Space for Wildfire Mitigation



Mitigation
Earthquake Retrofit

Preparedness & Response
purchase of a police command vehicle

Why a Hazard Mitigation Plan?

- Reduces or eliminates the need to respond
  - Lessening resource burden
- Creates resiliency and sustainability
- Promotes data sharing between different levels of government and academia
- Supports decision-making
- Disaster Mitigation Act of 2000
  - Certain Public Assistance (State Plans)
  - Hazard Mitigation Assistance Programs

Hazard Mitigation Grants

- Local communities must have a FEMA-approved hazard mitigation plan in place to receive federal grant funds for hazard mitigation Projects
  - BRIC (Building Resilient Infrastructure and Communities)
  - HMGP (Hazard Mitigation Grant Program)
  - FMA (Flood Mitigation Assistance)
- Virginia has allocated its HMGP funds from TS Michael (2018-DR 4411-VA) and Hurricane Florence (2018 DR-4401-VA)
- Next opportunity for grant applications will be BRIC in 2021
- Other (non-FEMA) funding sources

How Can the Plan Be Used?

Grants can be used for:

- Building acquisitions or elevations
- Culvert replacements
- Drainage projects
- Bank stabilization
- Infrastructure hardening
- Wind retrofits
- Seismic retrofits
- Snow load retrofits
- Standby power supplies for critical facilities
- And more

This home was acquired and demolished using a FEMA grant

Natural Hazards Included in the Plan

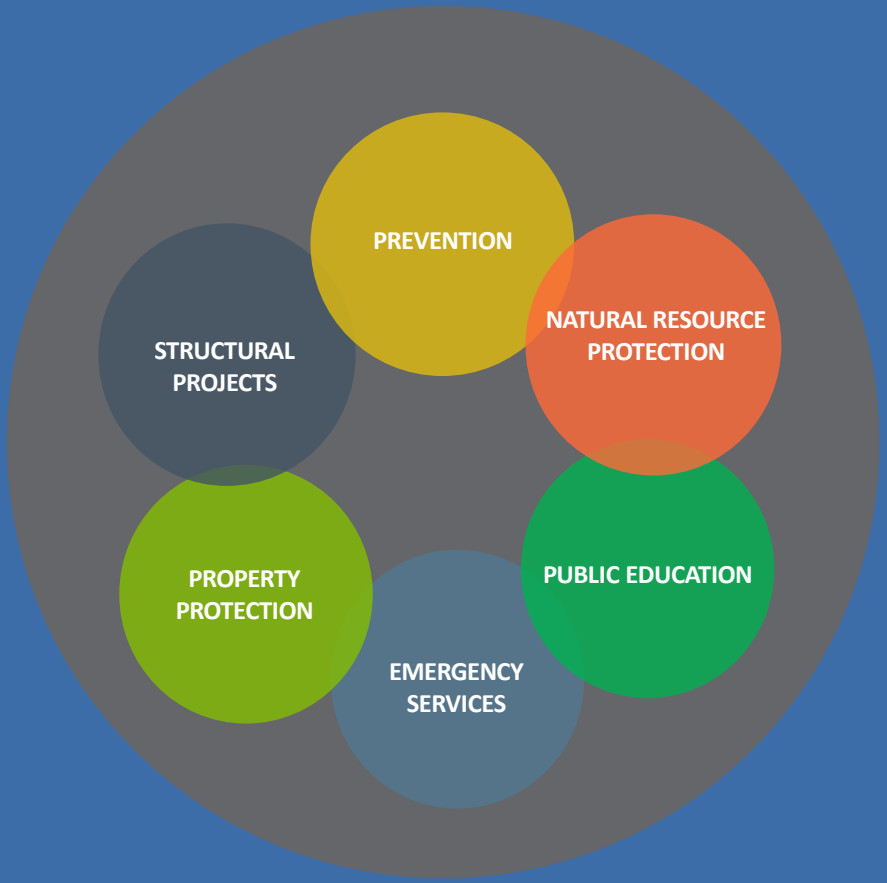
- Winter Storms
- Flooding
- Hurricane
- Tornadoes
- Drought
- Wildfires
- Landslide
- Earthquakes

CLIMATE CHANGE

Man-Made and Human-Caused Hazards Included in the Plan

- Dam Failure
- HVT Lines
- Organic and Inorganic Spills
- Pipeline Failure
- Agriterrorism

Hazard Mitigation Strategies and Actions



Structural Project

Property Protection

Flood Mitigation Strategies

FLOOD MITIGATION

STRUCTURAL PROJECTS

- Replace Bridges and Culverts
- Remove In-Stream Dams
- Remove Obstructions
- Upstream Detention
- Install Stormwater Systems
- Create Floodways
- Enlarge Channels
- Reduce Flow Resistance
- Install Levees
- Install Flood Walls

PROPERTY PROTECTION

- Wet Floodproofing
- Dry Floodproofing
- Elevate Buildings
- Relocate Buildings
- Secure Utilities
- Anchor Floatables
- Remove Hazardous Materials
- Re-Grade Properties
- Purchase Flood Insurance
- Join the Community Rating System (CRS)

PREVENTION

- Modify Zoning
- Modify Comp Plan
- Stormwater Management Regulations
- Increase Flood Damage Prevention Standards
- Freeboard
- Low Impact Development
- Minimize Impervious Cover

Flood Mitigation Strategies

FLOOD MITIGATION

NATURAL RESOURCES

- Acquire or Preserve Floodplain Land
- Acquire and Remove Structures from Floodplains and Convert to Open Space
- Acquire or Preserve Other Lands
- Increase Wetland Storage
- Re-Connect Streams to Floodplains

EMERGENCY SERVICES

- Build Local Capacities to Respond
- Move Critical Facilities from Flood Risk Areas
- Establish Emergency Shelters
- Elevate Roads or Bridges to Ensure Egress
- Develop Community Evacuation Plans
- Develop Site-Specific Evacuation Plans
- Establish Satellite Facilities in Areas Subject to Isolation

PUBLIC EDUCATION

- Newsletters
- Community Meetings
- Information Kiosks
- Web Site with Flood Risk Maps
- Education of Municipal Staff
- Leverage State and FEMA Education Programs
- Establish a Standing Committee or Board to Oversee Outreach

Other Hazard Mitigation Strategies

- Strengthen or reinforce shelters and critical facilities
- Create backup critical facilities
- Bury utilities
- Harden utilities
- Expand and fund tree maintenance programs
- Snow removal plans and programs
- Shutters, load path, and roof projects
- Enhance fire suppression capabilities with dry hydrants, cisterns, etc.
- Bracing for potential earthquake damage
- Public education programs and resources

Hurricane Shutters

Dry Hydrants

Plan Update Requirements

- Comprehensive planning process / foster relationships
  - Description of who is involved and how the plan is prepared
  - Established method for monitoring, maintaining and updating the plan
- Hazard Identification and Risk Assessment update
  - Hazard profiles, vulnerabilities, potential losses, development trends
- Focus on mitigation strategy and actions
  - Goals, progress, evaluation of actions, implementation plan
- Improve mitigation capabilities
  - Discussion of current policies, programs, and capabilities to support LHMPs and reduce risk statewide
- Approval by VDEM & FEMA and adoption every 5 years

Planning Process

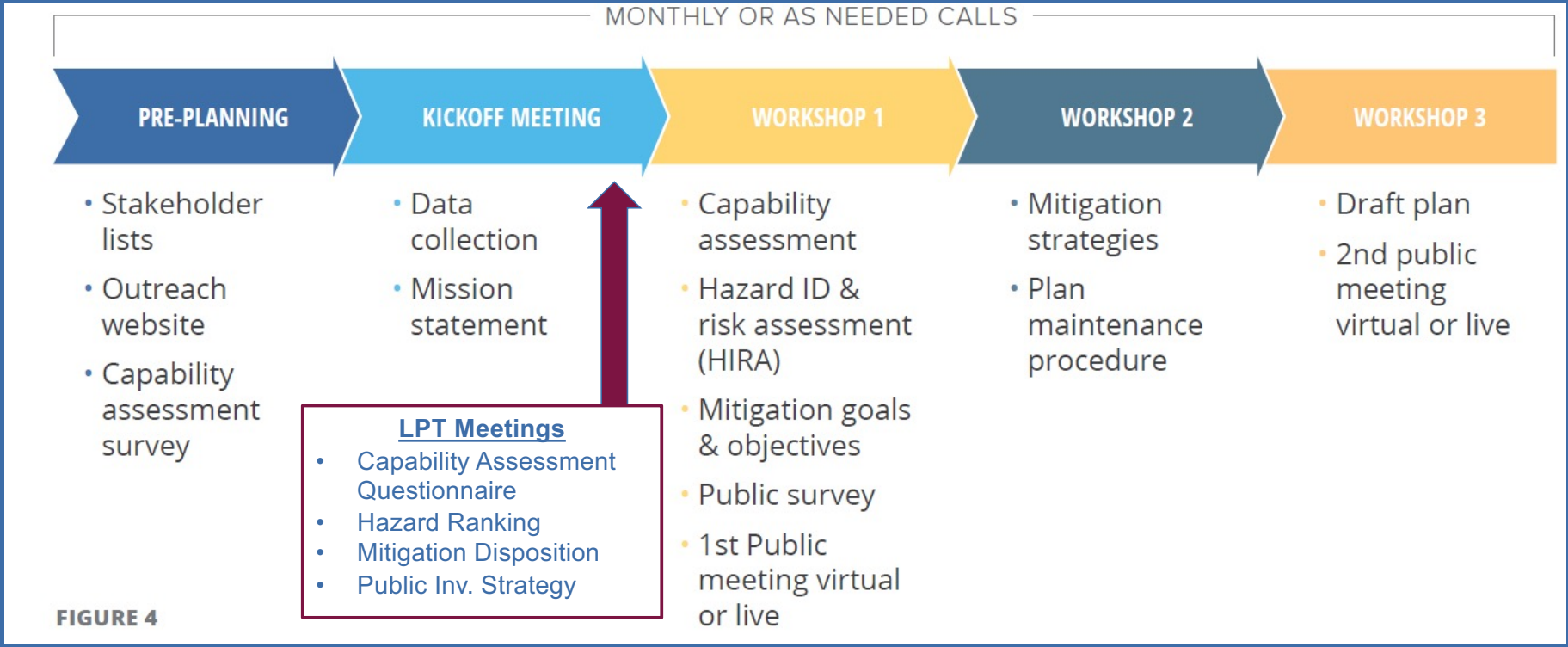


FIGURE 4

Data Collection and Discussion

- Community Profile/Development Changes
- Critical Facilities
- Transportation and Infrastructure
- GIS Data (parcels, values, footprints, other)
- Capabilities
- Policies, Programs and Regulations
- Plans and Studies
- Events since last plan
- Hazard Ranking
- Mitigation Goals, Objectives and Strategy Disposition (time permitting)

New bridge in Vernon

Walk Through Handout

Spare Slides

Hazard Ranking Criteria

Probability/History	Vulnerability	Maximum Threat (Geographic Area Affected)	Warning Time
Unlikely No documented occurrence with annual probability <0.01	**Negligible** 1 to 10% of people or property	**Isolated** < 5% of community impacted	**Extended** Three days or more
Somewhat Likely Infrequent occurrence with at least one documented event with annual probability between 0.5 and 0.01	**Limited** 10 to 25% of people or property	**Small** 5 to 25% of community impacted	**Limited** 2 days
Likely Frequent occurrence with at least 2 documented events with annual probability between 1 and 0.5	**Critical** 25 to 50% of people or property	**Medium** 25 to 50% of community impacted	**Minimal** 1 day
Highly Likely Common events with annual probability >1	**Catastrophic** >50% of people or property	**Large** >50% of community impacted	**No Notice** < 24 hours

Goals and Objectives

Goal 1: To protect persons and property, and reduce future damage and losses to the community
Objective 1.1. Improve local warning capabilities.
Objective 1.2. Use planning and regulations to reduce risk.
Objective 1.3. Use property acquisition techniques to reduce exposure in the floodplain.
Objective 1.4: The West Piedmont Planning District Commission communities will support implementation of structural and non-structural mitigation activities to reduce exposure to natural and man-made hazards.
Goal 2: Implement activities that assist in protecting lives by making homes, businesses, infrastructure, critical facilities, and other property more resistant to natural hazards.
Objective 2.1. Use construction practices and other techniques to reduce vulnerability to natural hazards.

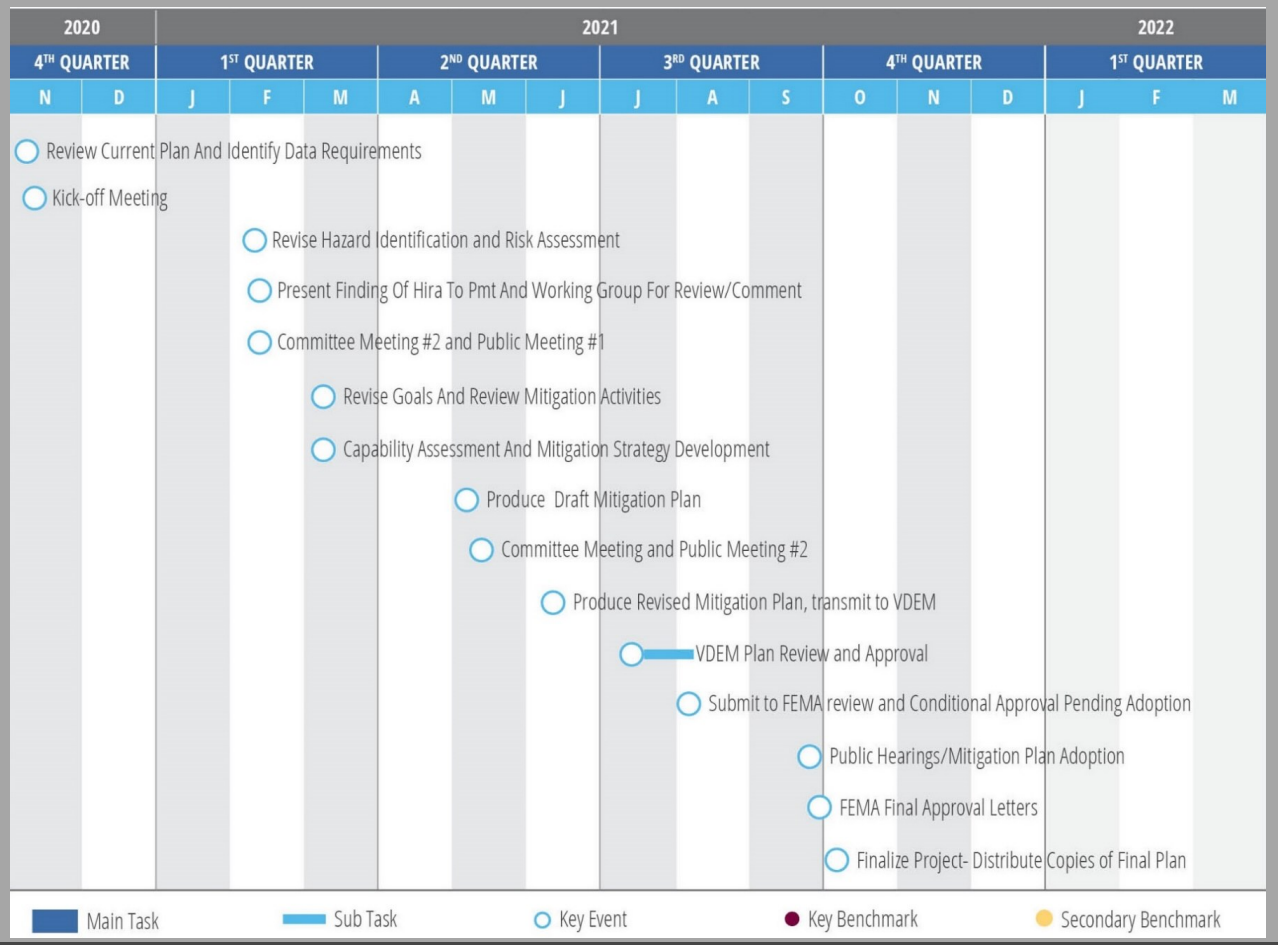
Goals and Objectives

Goal 3: Protect new and existing public and private infrastructure and facilities from the effects of hazards.
Objective 3.1. Undertake actions to protect facilities (i.e., buildings) owned by the community.
Objective 3.2. Implement measures to protect utility systems from natural hazards.
Objective 3.3. Improve natural and manmade drainage systems to reduce flooding.
Objective 3.4. Identify and implement ways to reduce flooding of roadways.
Goal 4: Ensure continued functionality of critical services
Objective 4.1. Undertake actions to ensure continued power at critical community facilities.
Objective 4.2. Undertake activities to provide continuous water service.
Objective 4.3. Reduce amount of time that roads are closed after a natural hazard event.

Goals and Objectives

Goal 5: Enhance the capabilities and capacity of local government to lessen the impacts of future disasters
Objective 5.1. Enhance or develop plans that improve the community's ability to respond to and recover from disaster.
Objective 5.2. Address training and staffing needs.
Objective 5.3. Improve data used for emergency management purposes.
Goal 6: Develop and implement education and outreach programs to increase public awareness of the risks associated with natural hazards.
Objective 6.1. Develop and implement programs that address manmade hazards.
Objective 6.2. Develop and implement programs that educate people and businesses about what they can do to prepare for natural hazards.
Objectives 6.3. Work with community partners to improve awareness of natural hazards.
Objective 6.4. Use the media to increase awareness of natural hazards.

Goals and Objectives

Goal 7: Promote hazard mitigation as a public value in recognition of its importance to the health, safety, and welfare of the population
Objective 7.1. Undertake activities that recognize the importance of hazard mitigation as crucial to the long-term viability of the community and economic resiliency.
Goal 8: Increase use of existing and new technology to enhance disaster mitigation, preparedness, response and recovery
Objective 8.1. Use mapping to improve awareness of potential hazards.
Objective 8.2. Use mapping to improve response and recovery after hazards occur.
Objective 8.3. Continue to expand capabilities of existing technological tools for the purposes of warning and response.
Goal 9: Promote regional approaches to emergency management
Objective 9.1. Develop memoranda of understanding, mutual aid agreements, and other mechanisms for collaborative response to disasters.

Project Schedule