

## Mitigation Actions

As part of the update process, the JSC guided the development of new mitigation actions during meetings discussed in *Chapter 3: Planning Process*. Some mitigation action items were carried over from the old plan and annual updates and were marked as complete or edited, and some new action items were developed based on the goals and objectives of the Plan.

In the mitigation action table in this section, progress on actions is noted under the “Timeline” column. There are a total of 41 incomplete/ongoing action items as of this 2024 update. Nine action items from the previous update were completed with four being completed prior to the 2021 annual review and five being marked as completed after the 2021 annual review. Ten action items have been added to the table. Two of these additions have been edited from the most recent version of the Plan. The “New Task (as of Jan. ’23)” column marks which action items are new for the 2024-2029 Plan update. To create the implementation strategy for all the actions, each action item is placed in the table below, and the following are identified for each action:

- Related Hazards (all hazards that are addressed by the action)
- Lead Departments for Implementation
- Support Agency or Agencies
- Funding Source (Federal, State, County funds or grants)
- Estimated Cost
- New Task (as of Jan. ’23)
- General Timeline- Each action item is designated with one of the following timelines below. It is often difficult to establish a discrete timeline due to funding, staffing, and priority changes.
  - **Long-term**- This action is a new strategy or action that has been or will be adopted on a consistent basis for the foreseeable future by the County. It does not have a discrete ending. At every annual review of this Plan, these actions will be evaluated for effectiveness.
  - **Medium-term**- This action is a new strategy or action that has been or will be adopted on a consistent basis by the County and likely will not be complete for the next ten years.
  - **Short-term**- This action is a new strategy or action that has been or will be adopted on a consistent basis by the County and likely will not be complete for the next five years.
- Mitigation Category (Preventive Measures, Property Protection, Natural Resource Protection, Structural Projects, Emergency Services, or Public Outreach and Education)

A detailed description of each funding source listed in the table is provided immediately following the action table. The abbreviations used in the mitigation actions table refer to the funding resources listed in that section.

## Evaluating Mitigation Actions for Cost-Effectiveness

In accordance with FEMA mitigation planning requirements, the NHMP JSC evaluated the cost-effectiveness of each of the actions listed in the table below. In many cases, the actions listed in the

table are part of larger mitigation strategies, or are studies intended to be precursors to potential mitigation actions, if the actions are determined to be feasible and cost-effective through more detailed evaluations. The County used two sources to develop the actions below:

- The previous NHMP
- Directly soliciting information from the JSC, County departments, and individuals with specific knowledge of certain kinds of hazards and actions

Project costs provided are estimates from the JSC member or subject matter expert who suggested the action item. Feasibility of the action items were discussed in the first Joint Steering Committee meeting and during the prioritization process. It is important to note that feasibility can often change year to year depending on budgets and County priorities.

## Prioritization

The following questions were used by the JSC to determine the level (high, medium, and low) of importance to life safety, administrative, and economic considerations for each action. These priorities were translated into points and facilitated the ranking and identification of high priority projects as shown in the table below.

EVALUATION CRITERIA FOR PROJECT PRIORITIZATION						
Criteria	Points	High	Points	Medium	Points	Low
Life/Safety Impact (Scale from 0-10)	7-10	Significant impact on public safety for businesses, residents, properties	3-6	Direct impact on businesses, residents, properties	0-2	Minimal/negligible impact on businesses, residents, properties
Administrative/Tech Assistance (Scale from 0-5)	4-5	No additional staff or technical support needed to implement action	2-3	Some administrative and technical support needed to implement action	0-1	Significant administrative and technical support needed to implement action
Project Cost (Scale from 0-5)	4-5	Low cost (<\$25,000)	2-3	Moderate cost (\$25,000-\$100,000)	0-1	High cost to implement (>\$100,000)

Action items that received high numerical scores are ranked as having higher priority. For example, a project with a high score will have more impact on public safety, be relatively easy to accomplish due to not needing additional staff or technical support and be lower in cost. Action items that receive lower scores will tend to have higher costs, not as much direct or immediate impact on public safety and require more administrative and technical support.

# Implementation Plan

Mitigation					Prioritization				Implementation				
Action ID	Project Description	Hazard(s) Mitigated	Lead Agency	Support Agency	Life/Safety Impact	Admin/Tech Assistance	Cost Ranking	Total	Funding Source	Est. Cost	New Task (as of Jan. '23) Yes/No	Timeline	Action Category
<b>INCOMPLETE/ONGOING ACTIONS (AS OF JANUARY 2023)</b>													
1	Continue to utilize FEMA's Integrated Public Alert and Warning System (IPAWS) for sudden onset hazards such as tornados, thunderstorms, or flash floods.	All Hazards	OEM		6	4	4	14	County Funds; UASI	Staff Time	No	Long-term	Public Education and Outreach
2	Perform flood mitigation for Historic Ellicott City, consistent with the Ellicott City Safe and Sound Flood Mitigation Plan, by designing and constructing the North Tunnel, Maryland Avenue Culvert, Pond H-7, Pond H-4, Quaker Mill Pond, Pond NC-3, and Pond T-1, as well as performing other non-capital project efforts consistent with the Safe and Sound Plan.	Flooding	DPW		10	2	1	13	County, State, Federal Funds	\$200M	Yes	Medium-term	Structural Projects
3	Encourage local businesses and local industry owners to develop a business continuity plan and provide educational materials.	All Hazards	OEM		5	4	4	13	County Funds; SHSP; EMPG	Staff Time	No	Long-term	Public Education and Outreach
4	Ensure that applicable codes and ordinances, such as building codes, floodplain ordinances, wetland protection, and erosion and sediment control standards are consistently enforced.	All Hazards	DILP/DPZ		5	3	4	12	County Funds	Staff Time	No	Long-term	Preventive Measures

Mitigation					Prioritization				Implementation				
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5	Continue to update, maintain, and implement existing emergency plans, including but not limited to, recovery, response, and/or emergency operations plans.	All Hazards	OEM		5	3	4	12	EMPG; UASI; County Funds	Staff Time	No	Long-term	Emergency Services
6	Continue to conduct an annual snow emergency coordination meeting in the fall with the County departments involved in snow emergency response.	Severe Winter Weather	DPW-Highways	DPW-Utilities; DPW-Facilities	5	3	4	12	County Funds	Staff Time	No	Long-term	Emergency Services
7	When updating the County's area plans and comprehensive plan, include hazard mitigation considerations to reduce risk to natural hazards throughout the County.	All Hazards	DPZ		4	3	4	11	County Funds	Staff Time	No	Long-term	Preventive Measures
8	Continue to maintain and update an annual plan to supplement Public Work's snow removal teams with Department of Recreation and Parks and Fire Department personnel.	Severe Winter Weather	DPW-Highways	DRP; DFRS	4	3	4	11	County Funds	Staff Time	No	Long-term	Emergency Services
9	Maintain the tree and brush trimming program within the right-of-way to protect access to critical facilities and to prevent emergency services from being disrupted due to falling trees or branches, before and/or after a hazard event.	All Hazards	DPW-Highways	Verizon; First Energy; Constellation Home	5	3	3	11	County Funds	Staff Time	No	Long-term	Emergency Services

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10	Continue to educate key emergency management stakeholders (Executives Cabinet and Emergency Management Operations Group members) by conducting trainings and exercises.	All Hazards	OEM		4	3	4	11	UASI; EMPG; County Funds	\$50,000	No	Long-term	Emergency Services
11	Evaluate each County department's ability to maintain a suitable workforce during a protracted disaster.	All Hazards	OEM		4	3	4	11	County Funds	Staff Time	No	Long-term	Emergency Services
12	Implement the operational strategies and Cistern Plan for dealing with rural water supply during protracted drought events.	Drought	DFRS		6	3	2	11	County Funds	Staff Time	No	Short-term	Emergency Services
13	Conduct annual training/exercises for Emergency Operations Center and Department Operations Center personnel on how to continuously staff the centers through a protracted disaster.	All Hazards	OEM		4	3	4	11	County Funds	Staff Time	No	Long-term	Emergency Services
14	When updating zoning ordinance, consider provisions for identification of all hazard areas.	All Hazards	DPZ		4	3	4	11	County Funds	Staff Time	No	Short-term	Preventive Measures
15	Continue to enhance and develop mutual aid agreements with neighboring jurisdictions and State partners.	All Hazards	OEM		4	3	4	11	County Funds	Staff Time	No	Long-term	Emergency Services
16	Continue to conduct training exercises for hazard events at least twice a year.	All Hazards	OEM		4	3	4	11	County Funds; EMPG	Staff Time	No	Long-term	Emergency Services

Mitigation					Prioritization				Implementation				
Action ID	Project Description	Hazard(s) Mitigated	Lead Agency	Support Agency	Life/Safety Impact	Admin/Tech Assistance	Cost Ranking	Total	Funding Source	Est. Cost	New Task (as of Jan. '23) Yes/No	Timeline	Action Category
17	Continue to educate homeowners on the potential risk of earthquakes and on safety techniques to follow during and after an earthquake.	Earthquake	OEM		4	3	4	11	County Funds	Staff Time	No	Long-term	Public Education and Outreach
18	Collect information and develop a queryable database of specific hazard events that caused any damages to County infrastructure and critical facilities.	All Hazards	OEM	DPW-SWMD	4	3	4	11	County Funds	Staff Time	No	Medium-term	Emergency Services
19	Educate all building safety coordinators about safety, evacuations, appropriate assembly areas and shelter-in-place guidelines.	All Hazards	Risk Management		4	3	4	11	County Funds	Staff Time	No	Long-term	Emergency Services
20	Implement a comprehensive critical infrastructure protection program that focuses on security and consequence management.	All Hazards	Physical Security Workgroup (HCPD, OEM, DFRS, DPW, DTCS, Risk Management, and Health Department)	External Partners through OEM	5	3	3	11	UASI; Capital Budget; County Funds	Staff Time	Yes	Short-term and when needed	Preventive Measures
21	Continue to place NOAA Weather Alert Radios in new designated critical facilities and County-owned buildings.	Weather related hazards	Administration; Risk Management	OEM	4	4	3	11	UASI; EMPG	\$5,000	No	Long-term	Public Education and Outreach

Mitigation					Prioritization				Implementation				
Action ID	Project Description	Hazard(s) Mitigated	Lead Agency	Support Agency	Life/Safety Impact	Admin/Tech Assistance	Cost Ranking	Total	Funding Source	Est. Cost	New Task (as of Jan. '23) Yes/No	Timeline	Action Category
22	Work with County departments and strategic partners to better serve at-risk populations (elderly persons, unhoused populations, persons with access and functional needs) through effective public outreach on various hazards and monitor for gaps in providing emergency services to those populations.	All Hazards	OEM	DCRS	5	3	4	11	County Funds	Staff Time	Edited from Old Task	Long-term	Public Education and Outreach
23	Utilize tracking reports during the annual NHMP review process to identify potential barriers or hindrances to implementation of hazard mitigation activities and projects.	All Hazards	OEM		4	3	4	11	County Funds	Staff Time	No	Long-term	Preventive Measures
24	Continue to adopt the most updated version of the National Electrical Code (NEC).	All Hazards	DILP		4	3	4	11	County Funds	Staff Time	No	Long-term	Preventive Measures
25	Consider natural resource preservation and land use planning initiatives that ensure natural resource areas that provide hazard mitigation benefits, remain open spaces, to retain the natural benefits they provide.	All Hazards	DPZ; Admin. - OCS		4	3	4	11	County Funds	Staff Time	No	Long-term	Natural Resources
26	Continue to host annual workshops for local builders to discuss how to build homes that are more resistant to natural hazards.	All Hazards	DILP		4	3	4	11	County Funds	Staff Time	No	Long-term	Property Protection

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27	Continue regular maintenance program for the County's emergency generators that includes a schedule to change filters, etc.	All Hazards	DPW-Facilities		4	3	4	11	County Funds	Staff Time	No	Long-term	Emergency Services
28	Maintain requirements to continue recognition as a Storm Ready Community (by the National Weather Service StormReady® Program).	All Hazards	OEM		3	3	4	10	County Funds	Staff Time	No	Short-term	Emergency Services
29	Continue to conduct seminars in schools on various hazards that could threaten the County and provide informational packets on the County's natural and human-caused hazards.	All Hazards	OEM		3	3	4	10	County Funds	Staff Time	No	Long-term	Public Education and Outreach
30	Establish a pre-EMAC personnel and equipment identification process to deploy County personnel and equipment to surrounding jurisdictions and/or regional/national disaster events.	All Hazards	OEM		4	2	4	10	County Funds; UASI	Staff Time	No	Short-term	Emergency Services
31	Increase public awareness on wildfires by providing outreach and education on urban/wildland interface and increasing buffers and defensible spaces to reduce vulnerability	Wildfires	DFRS	DNR	3	3	4	10	EMPG	\$10,000	No	Long-term	Property Protection
32	Finish Debris Management Plan and document lessons learned from recent events.	All Hazards	OEM; DPW-Environmental Services	DRP	3	3	4	10	County Funds	Staff Time	Yes	Short-term	Emergency Services



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33	Take down dead ash, oak, and tree of heaven trees that could potentially fall and hit a target and replant new trees to re-establish the vegetation and new tree canopy.	All Hazards	DRP		4	3	3	10	County Funds	\$200,000	Edited from Old Task	Medium-term	Natural Resources
34	Continue to evaluate and remove trees throughout the County's park system that are at risk of falling during storms and high wind events.	Tornado; Hurricane; Severe Winter Weather	DRP		4	2	3	9	County Funds	Staff Time	No	Long-term	Natural Resources
35	Establish pre-disaster debris contracts and craft debris site MOUs with appropriate County agencies and regions.	All Hazards	DPW-Environmental Services, Solid Waste (Operations Division)		3	3	3	9	County Funds	Staff Time	No	Short-term	Emergency Services
36	Consider the need for a policy that requires new County-owned Class 4 buildings and critical facilities to be hardened and safe rooms incorporated.	All Hazards	OEM; DPW-Facilities		4	2	3	9	BRIC; HMGP	Staff Time	Yes	Short-term	Emergency Services
37	Continue to perform routine maintenance to keep street trees healthy so they are less likely to fall or break during a severe weather event.	All Hazards	DPW -Highways		4	3	2	9	County Funds	Staff Time	No	Long-term	Natural Resources

Mitigation					Prioritization				Implementation				
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38	Conduct an engineering study to identify and plan for flood risk mitigation alternatives, such as temporary or permanent flood barriers, elevating or relocating equipment, and/or other flood risk mitigation facility improvement at the County's wastewater treatment plant, the Little Patuxent Water Reclamation Plant.	Flood	DPW – Bureau of Engineering, Utility Design Division		5	3	1	9	County Funds	Staff Time	Yes	Short-term	Emergency Services
39	Sequentially construct flood risk mitigation measures such as temporary or permanent flood barriers, elevating or relocating equipment, and/or other flood risk mitigation facility improvements at the County's wastewater plant, the Little Patuxent Water Reclamation Plant.	Flood	DPW – Bureau of Engineering, Utility Design Division		5	3	1	9	County Funds; Grant and non-grant options	Staff Time	Yes	Medium-term	Structural Projects
40	Create templates for alert messaging for various scenarios.	All Hazards	PIO		0	5	4	9	County Funds	Staff Time	Yes	Short-term	Public Outreach and Education
41	Build water main along U.S. Route 29.	Water Availability	DPW -Utilities		5	2	1	8	County Funds	\$15M-\$18M	Edited from Old Task	Medium-term	Natural Resources
ACTIONS COMPLETED AFTER 2021 UPDATE													
A	Install lightning alerting systems in DRP's eight regional parks.	Lightning	DRP; OEM		3	3	3	9	County Funds	\$15,000/year		Complete	Emergency Services
B	Identify existing County-owned Class 4 buildings.	All Hazards	DPW-Facilities		2	3	5	10	BRIC; HMGP	Staff Time		Complete	Emergency Services
C	Develop a County emergency water supply plan.	All Hazards	DPW-Utilities		10	1	1	12	County Funds	\$100,000-150,000		Complete	Emergency Services

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Action ID	Project Description	Hazard(s) Mitigated	Lead Agency	Support Agency	Life/Safety Impact	Admin/Tech Assistance	Cost Ranking	Total	Funding Source	Est. Cost	New Task (as of Jan. '23) Yes/No	Timeline	Action Category
D	Establish a comprehensive critical infrastructure protection program that focuses on security and consequence management.	All Hazards	Physical Security Workgroup (HCPD, OEM, DFRS, DPW, DTCS, Risk Management, and Health Department)	External partners through OEM	10	5	5	20	UASI; Capital Budget; County Funds	Staff Time		Complete	Preventive Measures
E	Maintain NOAA Weather Alert radios located in designated critical facilities across the County.	All Hazards	Administration - Risk Mgmt.	OEM	2	5	5	12	UASI; EMPG	\$5,000		Complete	Public Education and Outreach
<b>COMPLETED ACTIONS (PRIOR TO 2021 UPDATE)</b>													
A	Develop an Emergency Preparedness, Training, and Exercise Plan that includes a regular maintenance plan and an annual budget.	All Hazards	OEM		2	5	5	12	EMPG; UASI; County Funds	Staff Time		Completed	Emergency Services
B	Review existing building codes every three years to ensure they have been deemed satisfactory in assessing serious damage caused by specific hazards.	All Hazards	DILP		2	5	5	12	County Funds	Staff Time		Ongoing/Complete	Preventive Measures
C	Combine the Natural Hazards Mitigation Plan and Flood Mitigation Plan to ensure annual review cycles are synchronized.	All Hazards	OEM; DPW – SWMD		10	3	3	16	County Funds; EMPG	\$50,000-100,000		Completed	Preventive Measures
D	Install Tone Alert System in four locations within Ellicott City.	Flood	OEM		3	5	5	13	State Funds	\$250,000		Complete	Emergency Services

The table below identifies the highest priority projects based on their total scores.

Top Five Mitigation Actions	
Project Description	Score
Continue to utilize FEMA’s Integrated Public Alert and Warning System (IPAWS) for sudden onset hazards such as tornados, thunderstorms, or flash floods.	14/20
Perform flood mitigation for Historic Ellicott City, consistent with the Ellicott City Safe and Sound Flood Mitigation Plan, by designing and constructing the North Tunnel, Maryland Avenue Culvert, Pond H-7, Pond H-4, Quaker Mill Pond, Pond NC-3, and Pond T-1, as well as performing other non-capital project efforts consistent with the Safe and Sound Plan.	13/20
Encourage local businesses and local industry owners to develop a business continuity plan and provide educational materials.	13/20
Ensure that applicable codes and ordinances, such as building codes, floodplain ordinances, wetland protection, and erosion and sediment control standards are consistently enforced.	12/20
Continue to update, maintain, and implement existing plans, including but not limited to, recovery, response, and/or emergency operations plans.	12/20

## Funding Sources

The following sources provide funding for hazard mitigation projects.

### Building Resilient Infrastructure and Communities (BRIC)

BRIC is administered by FEMA and provides grants to states, tribes, and local governments. The BRIC Program provides funds for hazard mitigation projects that reduce risks faced from disasters and natural hazards. The guiding principles are:

- Supporting communities through capability-and-capacity building
- Encouraging and enabling innovation
- Promoting partnerships
- Enabling large projects
- Maintaining flexibility
- Providing consistency

### Emergency Management Performance Grant (EMPG)

The EMPG program provides resources to state and local governments to develop an all-hazards planning approach to emergency management and to sustain and enhance all-hazards emergency management capabilities. Every state is eligible for a percentage of the available funds and is intended to sustain the core capabilities of the five (prevention, protection, mitigation, response, and recovery) mission areas.

### **Community Development Block Grant (CDBG)**

The CDBG Program supports community development activities to build stronger and more resilient communities. To support community development, activities are identified through an ongoing process. Activities may address needs such as infrastructure, economic development projects, public facilities installation, community centers, housing rehabilitation, public services, clearance/acquisition, microenterprise assistance, code enforcement, homeowner assistance, etc.<sup>170</sup>

### **Flood Mitigation Assistance (FMA) Program**

FMA provides funding to assist communities and states in implementing actions that reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, or other NFIP insurable structures with a focus on RL properties. The NFIP enables property owners in participating communities to purchase insurance as a protection against flood losses in exchange for state and community floodplain management regulations that reduce future flood damages. Three types of FMA grants are available to states and communities: 1) planning grants to prepare FMPs; 2) project grants to implement measures to reduce flood losses, such as elevation, acquisition, or relocation of NFIP-insured structures; and 3) technical assistance grants for the State to help administer the FMA program and activities.

### **Hazard Mitigation Grant Program (HMGP)**

HMGP is administered by FEMA and provides grants to states, tribes and local governments to implement hazard mitigation actions after a major disaster declaration. The purpose of the program is to reduce the loss of life and property due to natural disasters and to enable mitigation activities to be implemented as a community recovers from a disaster. Eligible projects include elevating flood-prone homes or businesses; acquisition of flood-prone homes from willing owners and returning the property to open space; retrofitting buildings; and construction of floodwall systems to protect critical facilities.

### **Urban Areas Security Initiative (UASI)**

The UASI program assists high-threat, high-density urban areas in efforts to build and sustain the capabilities necessary to prevent, protect against, mitigate, respond to, and recover from acts of terrorism. The UASI program is intended to provide financial assistance to address the unique multi-discipline planning, organization, equipment, training, and exercise needs of high-threat, high-density urban areas, and to assist these areas in building and sustaining capabilities to prevent, protect against, mitigate, respond to, and recover from threats or acts of terrorism.

Most state and federal grant programs require local communities to provide at least part of the necessary project funding in real dollars or through “in-kind” services. While the percentage of local contribution varies from program to program, local communities need to assess their financial capability and resources to implement their hazard mitigation action plans. Howard County can meet match requirements through various funding sources.

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<sup>170</sup> *Community Development Block Grant*, HUD EXCHANGE, <https://www.hudexchange.info/programs/cdbg/> (last visited Feb. 22, 2023).

### **State Homeland Security Program (SHSP)**

The SHSP is a core assistance program that provides funds to build capabilities at the state, local, and territorial levels, to enhance national resilience, to absorb disruptions, and to rapidly recover from incidents both natural and human-caused as well as to implement the goals and objectives included in state homeland security strategies and initiatives.

### **Annual Budgets**

The 2019 Year Capital Improvement Program (CIP) was approved by the County Council and is allotted \$198,855,000 for infrastructure planning, bridge repairs, and other large-scale projects. The projected five-year CIP for FY 2019-2024 is \$ 5,235,826,000.

### **Funding through Taxing Authority**

The County can fund mitigation projects through its taxing authority. It also has the authority to incur debt through general obligation bonds, special tax bonds, and revenue bonds.

Howard County also charges fees for water, sewer, and trash services. Gas and electric services are provided by private companies. Although impact fees are not charged to homebuyers for the new homes, the County does levy development excise taxes on new developments.

## **Continued Compliance with the National Flood Insurance Program (NFIP)**

We understand that while FEMA is the official administering agency for NFIP participation, it is the community's responsibility to have the capability and to serve as a resource for flood mitigation activities. Howard County is a participant in the NFIP and is committed to continuing compliance with the NFIP via three basic components of the NFIP and described in detail within the subsections below:

- Floodplain Identification and Mapping Risk
- Responsible Floodplain Management
- Flood Insurance

### **Flood Identification and Mapping**

- According to Subtitle 7-Floodplain, Section 16.704- Use and Interpretation of FIRMs, "If a preliminary flood insurance rate map and/or a preliminary flood insurance study has been provided by FEMA...Upon the issuance of a letter of final determination by FEMA, the preliminary flood hazard data shall be used and shall replace the flood hazard data previously provided from FEMA for the purposes of administering these regulations." Adoption of the latest effective FIRMs and compliant floodplain management ordinance occurred by the map effective date, November 6, 2013.
- The County makes the FIRM and Flood Insurance Studies available to the public. These documents are housed in the County's SWMD (BES). They are also available at County libraries

and digital copies are available on the County's website and Digital Flood Insurance Rate Map (DFIRM) tool ([https://data.howardcountymd.gov/gdfirm/main\\_Web.aspx](https://data.howardcountymd.gov/gdfirm/main_Web.aspx)).

- The County reviews Letters of Map Revisions (LOMRs) based on Fill (LOMR-F) and/or Conditional LOMR-F requests and signs a Community Acknowledgement Form for the applicant to submit to FEMA. If during the subdivision review process a new development determines a reduction in the floodplain delineation of the FIRM floodplain, the developer is required to submit a LOMR to FEMA.
- The County provides advice to community residents regarding elevation certificates and Letter of Map Amendment (LOMA) applications. Elevation Certificates are provided to the public upon request if their property is within or close to the high-risk flood zone.
- The County maintains records of approved letters of map change. Digital copies of Letters of Map Change (LOMC) are available on the County's website and DFIRM Tool ([https://data.howardcountymd.gov/gdfirm/main\\_Web.aspx](https://data.howardcountymd.gov/gdfirm/main_Web.aspx)).

## **Floodplain Management**

- According to Title 16-Planning, Zoning, and Subdivisions and Land Development Regulations, Subtitle 7-Floodplain, Section 16.708, "The Director of the Department of Public Works is appointed to administer and implement floodplain regulations as contained in this Code and is referred to as the Floodplain Administrator." Duties are delegated to staff in the Department Public Works, the Department of Planning and Zoning, and the Department of Inspections, Licenses, and Permits.
- Adoption of the latest effective FIRMs and compliant floodplain management ordinance, which includes minimum NFIP floodplain management criteria as well as higher local standards, occurred by the map effective date, November 6, 2013. Restrictions on floodplain use are enforced through the subdivision and building permit process. Floodplain restrictions are included in Howard County Code Title 3—Buildings and Title 16—Planning, Zoning, and Subdivisions and Land Development Regulations, Article II. Design Standards and Requirements and Subtitle 7 Floodplain.
- All proposed development requires plans to go through the County's subdivision approval process or to acquire a building permit for new structures. However, County Code prohibits any new structures in the 100-year floodplain.
- Subtitle 17-Floodplain, Section 16.705 Requirements and Restrictions Applicable to the Floodplain includes regulations related to development in special flood hazard areas.
- All new structures are required to be at least two feet above the 100-year base flood elevation (BFE).
- Post-disaster damage assessment efforts within the County are carried out by the Department of Inspections, Licenses, and Permits (DILP). DILP is responsible for conducting preliminary damage assessments and is entrusted with ensuring that significant personnel are trained to conduct rapid substantial damage assessments immediately following an emergency. A working group will be responsible for coordinating activities after a flood event, to ensure that applicable mitigation actions are brought to the County Executive and County Council for potential

adoption/implementation.<sup>171</sup> Regulations outlining how the county implements provisions related to rebuilding after substantial damage has occurred are outlined in Title 3 – Building Code, Section 3114 Floodplain.

## **Flood Insurance**

- The County is committed to educating residents about the value and availability of flood insurance. An annual letter is sent to residents within tax bills explaining the importance of flood insurance and where it may be obtained. Information is also shared year-round on DPW's website and through outreach events.
- The County will assist residents by phone, email, or in-person in interpreting the FIRM and County flood studies to determine the resident's property's floodplain status and offers advice regarding elevation certificates and LOMA applications if asked.
- The previous Community Assistance Visit (CAV) was conducted on May 15, 2018, and Howard County was found to meet the requirements for continued participation in the NFIP.

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<sup>171</sup> 2024 Flood Mitigation Plan Update, HOWARD CNTY. MD <https://www.howardcountymd.gov/sites/default/files/2023-02/2023%20FMP%20Draft.pdf>.



# Chapter 7: Plan Monitoring and Maintenance

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## *Requirements for NHMP Monitoring and Maintenance*

44 C.F.R. § 201.6(c)(4): The plan must include a plan maintenance process that includes:

- (i) A section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.
- (ii) A process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.
- (iii) Discussion on how the community will continue public participation in the plan maintenance process.

## Update Process Summary

Upon completion, the Plan was presented to MDEM and FEMA for review and approval in Spring 2023 and received final approval by County Council in Fall 2023. This County NHMP update is intended to be a living document that will undergo periodic review, adjustments, and improvements according to the monitoring and maintenance schedule. This Chapter establishes a method to monitor how the Plan will be evaluated and maintained in the future.

## Distribution

The 2024 NHMP update is posted on Howard County's OEM website. Notice of the Plan's online availability was distributed to the following groups through direct email, press releases, and social media posts:

- The organizations, agencies, and elected officials who received notices of public meetings;
- Citizens who attended public meetings and provided contact information;
- Followers of Howard County OEM on social media; and,
- People on Howard County OEM's email distribution list.

## Monitoring, Evaluation, and Progress Reports

This 2024 NHMP update will be monitored by the County for three related purposes:

1. Maintain current hazard risk information;
2. Ensure mitigation projects and actions reflect the current priorities of the County, the NHMP/FMP JSC, and the general public; and,
3. Comply with FEMA and MDEM requirements for NHMP maintenance, and to maintain eligibility for federal disaster assistance and mitigation grants.

OEM is responsible for coordinating the JSC, and the Committee shall monitor and maintain the NHMP update. OEM and the JSC shall continuously monitor the NHMP for the purposes described above and for the update triggers discussed in the next subsection.

Following adoption of this Plan, OEM shall annually convene a meeting of representatives from the JSC to discuss and determine implementation accomplishments and/or implementation obstacles and recommended solutions. Although the individuals filling the JSC positions may change from year to year, future members will continue to represent the same departments and organizations involved in this current update.

## **Plan Evaluation**

An annual report form is included at the end of this Chapter to provide annual updates to the County on the status of each County mitigation project. This form will be completed by OEM after each annual mitigation meeting based on feedback from the appropriate lead agency, to document the status of each hazard mitigation action taken under their jurisdiction. Each action proposed in the Plan will be categorized as one of the following: completed, in progress, not started, modified, or cancelled. The JSC will assist OEM with the preparation of a status report of the mitigation actions based on the annual report forms. OEM's status report of the mitigation actions, based on the annual report forms, will also be sent to MDEM and FEMA Region 3 for reporting and documentation purposes.

After the annual report forms are filled, the JSC will evaluate the effectiveness of the Plan in achieving its goals and objectives by going through an examination of the forms and ensuring that each project is moving forward. In addition, the JSC will consider the percentages of each mitigation action category (i.e., how many actions fall under each category and how many are being completed or held up). This will allow JSC members to consider if additional action categories need to be created or removed for efficiency and to reflect County priorities. At the time of this update, the percentages for each mitigation action category are below:

- Emergency Services: 19 action items (~46%)
- Public Education and Outreach: 7 action items (~17% of all actions)
- Preventive Measures: 6 action items (~15%)
- Natural Resources: 5 action items (~12%)
- Property Protection: 2 action items (~5%)
- Structural Projects: 2 action items (~5%)

# Circumstances to Initiate NHMP Review and Updates

Circumstances or conditions under which Howard County will initiate NHMP reviews and updates include the following:

- On the recommendation of the County Executive, or on its own initiative, the County may initiate an NHMP review at any time.
- At approximately the one-year anniversary of the NHMP's re-adoption, and approximately at the same anniversary every year thereafter.
- After a natural hazard event that appears to significantly change the apparent risk to County assets, operations, and/or citizens.
- When activities within the County, region, or State significantly alter the potential effects of natural hazards on County assets, operations, and/or community members. Examples include completed mitigation projects that reduce risk, actions, or circumstances that increase risk.

In addition to the circumstances listed above, revisions that warrant changing the text of this NHMP or incorporating new information may be prompted by a number of circumstances, including identification of specific new mitigation projects, completion of multiple mitigation actions, or meeting eligibility requirements for specific funding mechanisms. Minor revisions may be handled by addenda.

Major comprehensive review of and revisions to the Howard County NHMP will be conducted on a five-year cycle. Adoption of this Plan occurred in the Winter of 2024, and the NHMP will enter its next review cycle in 2027, with adoption of revisions anticipated by early 2029. The JSC will reconvene as required to conduct comprehensive evaluation and revision, including the identification and prioritization of additional mitigation action items.

## Benefit Cost Analysis

A Benefit Cost Analysis (BCA) determines the cost effectiveness of a project to minimize damage or prevent damage from future hazard events. Determining the benefit-cost ratio of the proposed mitigation project will provide the communities, as well as project developers, additional knowledge about the feasibility of the proposed mitigation alternative. If the costs outweigh the benefits, then other, more effective alternatives may be identified to accomplish the Plan's goals. Federal funding mechanisms often require a BCA, so this will be considered during each review of this Plan's future projects.

## Continued Public Involvement

The preparation of this Plan involved the public throughout the process through public meetings and via newspapers, the internet, and social media. Howard County is dedicated to continuing to solicit public participation during the five-year update as required by FEMA. Copies of the NHMP update will be provided to the public libraries and will be available on the County's website along with a mechanism for

submitting comments. Additionally, after annual updates, changes will be posted to Howard County OEM's website and promoted to the public via social media and press release.

Upon adoption of the updated 2024 NHMP, the public will be notified of any substantial changes to the document prior to the next scheduled update in early 2029. Any substantial changes proposed by the JSC will be distributed to the list of stakeholders identified in *Chapter 3: Planning Process*. Any substantial changes proposed by the JSC will be distributed to the list of stakeholders identified in [Appendix E: Joint Steering Committee Detailed List](#).

## Plan Adoption

### *Requirements for Adoption by the Local Governing Body*

44 CFR § 201.6(c)(5): [The local hazard mitigation plan must include] Documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan.

[Adoption Documentation will be inserted here when the plan is adopted by County Council—likely during Fall of 2023]

# Hazard Mitigation Plans Sample Annual Report Form

Natural Hazard Mitigation Plan Annual Report Form

Progress Report Period: \_\_\_\_\_ To: \_\_\_\_\_

Next Plan Update: \_\_\_\_\_ Project ID: \_\_\_\_\_

Project Type: \_\_\_\_\_

Responsible County Agency(ies)/Address/Contact/Title/Phone/Email:

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Project Description:

Project Status: \_\_\_\_\_

How many people were protected by this action? \_\_\_\_\_

Were any structures mitigated? If so, how many? \_\_\_\_\_

Explain:

Obstacles/challenges/delays incurred:

Method to resolve obstacle/challenge/delay:

Next steps to be accomplished over the next reporting period:

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# Appendix A: Meetings

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## 2024 Howard County Hazard Mitigation/Flood Mitigation Plan Update

### *Joint Steering Committee Meeting #1*

September 21, 2022: 1:00pm-4:00pm

Ligon Building, 3450 Courthouse Drive, Ellicott City, MD 21043



### HOWARD COUNTY OFFICE OF EMERGENCY MANAGEMENT

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*Director*  
Mike Hinson

*County Executive*  
Calvin Ball

#### Howard County 2024-2029 Hazard Mitigation and Flood Mitigation Plan Update

#### Steering Committee Meeting #1

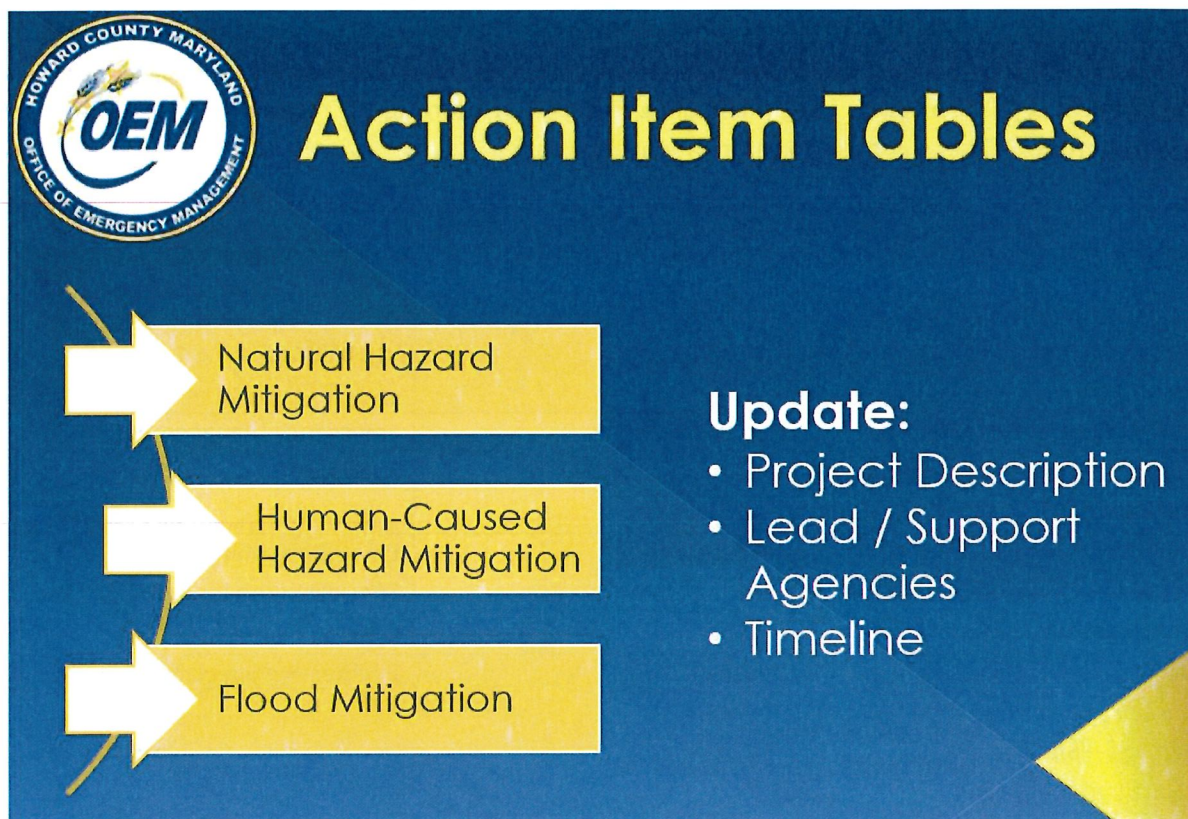
#### Agenda

Date: September 21, 2022

Time: 1:00-3:00 PM

- 1) Introductions
  - a) Howard County Office of Emergency Management
    - i) Housekeeping items
  - b) Introductions around the room
  - c) Introductions online
- 2) Project Overview Presentation
  - a) Purpose and background
  - b) Planning process
  - c) Roles and Responsibilities
  - d) Tentative Project Schedule/Milestones
  - e) Current Status
- 3) Mitigation Action Table Update Exercise
  - a) Natural Hazard Mitigation Plan Table
  - b) Human-Caused Hazard Mitigation Plan Annex Table
  - c) Flood Mitigation Plan Table
- 4) Open Discussion

FIGURE 63: SAMPLE SLIDE FROM OEM PRESENTATION AT JSC MEETING 1



Lauren Chilton of the Howard County Office of Emergency Management (OEM), with assistance from Michael Tennison, a consultant from the University of Maryland Center for Health and Homeland Security, led the first Joint Steering Committee (JSC) meeting on September 21, 2022. Participants, including partners from a variety of relevant County departments as well as community stakeholders, convened virtually and in-person for a hybrid meeting held in the OEM conference room.

After introductions, OEM provided an overview of hazard mitigation planning, including the County's mitigation plans and annexes, federal mitigation funding, the planning process, the goals and objectives of hazard mitigation, the roles and responsibilities of JSC members, and OEM's timeframe of milestones for the 2024 five-year update. Next, OEM introduced the action item tables related to natural hazard mitigation, human-caused hazard mitigation, and flood mitigation.

OEM went through each action item in all three tables, requesting feedback and updates regarding the current status of each item, their descriptions, the departments in charge of them, their funding mechanisms, and their estimated duration. The group also discussed new action items that had already begun or that will be needed in the future. This process prompted lengthy interdepartmental deliberation and problem solving that improved participants' individual and collective situational awareness of the hazard risks in the County and the County's diverse efforts to mitigate them.



Next steps include implementing JSC participants' suggested updates to the action item tables and following up with them to iron out the details. Additionally, OEM will provide them with a quantitative framework to reprioritize existing action items and prioritize new ones. Beyond these tasks, OEM will plan for the first public meeting, integrate findings from the forthcoming 2022 Howard County HIRA, and use Hazus GIS data to update risk information in the plan.

First Steering Committee Meeting Attendance (Hybrid) (JSC Members in Gray)		
Affiliation	Name	Title
Department of Fire & Rescue Services—Office of Emergency Management	Lauren Chilton	Emergency Management Specialist II
Department of Fire & Rescue Services—Office of Emergency Management	Michaela Salem	Emergency Management Specialist I
Department of Fire & Rescue Services—Office of Emergency Management	Dan Scotten	Emergency Management Specialist I (no longer with County)
Department of Public Works: Bureau of Environmental Services—Stormwater Management Division	Christine Lowe	Engineering Specialist III
Department of Public Works: Bureau of Engineering	Kris Singleton	Engineering Specialist III
Howard County Community Organizations Active in Disaster	Jim Ehle	Chair (no longer the Chair)
Howard County Health Department—Bureau of Infection Control and Public Health Preparedness	Lenora Painter	Bureau Director
Department of Fire & Rescue Services—Office of Emergency Management	Maria Bernadzikowski	Deputy Director (now Assistant Chief Administrative Officer)
Department of Public Works—Bureau of Engineering; Utility Design Division	Zack Knight	Program Manager
Howard County Administration	Shaina Hernandez	Senior Advisor for Policy (no longer with the County)
Howard County Administration—Office of Human Resources—Risk Management	Matt Zervas	Assistant Risk Manager

Department of Public Works: Bureau of Environmental Services—Stormwater Management Division	Brian Cleary	Engineering Specialist III
Howard County Administration—Office of Community Sustainability	Avery Farrell	Climate Action Coordinator
Howard County Public School System	Alan Moss	Safety and Security Planning Manager
Department of Technology and Communications Services—GIS	Rob Slivinsky	Geographical Information Systems Coordinator
Participating as Howard County Resident/Maryland Department of Environment—Waterway Permits	William Seiger	Howard County Resident
Howard EcoWorks	Lori Lilly	Executive Director
Department of Recreation and Parks—Bureau of Parks	Bryan Moody	Bureau Chief
Department of Public Works— Bureau of Facilities	Sharon Walsh	Bureau Chief
Baltimore County Office of Emergency Management	David Bycoffe	Director
Department of Planning and Zoning—Comprehensive and Community Planning Division	Kristin O'Connor	Division Chief
Constellation Home (formerly Baltimore Gas and Electric)	Marche Taylor Templeton	External Affairs Manager
Howard County Police Department—Operational Preparedness and Support Division	Ron Jason Baker	Lieutenant
Howard County Police Department—Operational preparedness and Support Division	Kelly Tibbs	Sergeant
Howard County Police Department—Operational Preparedness and Support Division	Todd Leppert	Captain

Department of Inspections, Licenses, & Permits—Operations Division	Bob Firmani	Division Chief
Department of Public Works	John Seefried	Assistant to the Director
Howard County Administration—Office of Community Sustainability	Lindsay DeMarzo	Planning Supervisor
Department of Planning and Zoning—Resource Conservation Division	Beth Burgess	Division Chief
Department of Fire & Rescue Services—Office of Emergency Management	Michael Hinson	Director
Department of Public Works: Bureau of Environmental Services	Mark DeLuca	Bureau Chief
Department of Public Works: Bureau of Facilities	Robert Hollenbeck	Deputy Chief
Department of Public Works: Bureau of Facilities	Kenn Hamm	Assistant to the Chief
Department of Public Works: Bureau of Environmental Services--Stormwater Management Division	Mark Richmond	Division Chief
Department of Fire & Rescue Services—Operations Command	Gordon Wallace	Deputy Chief
Department of Inspections, Licenses, & Permits—Plans Review Division	Don Mock	Division Chief
Department of Public Works: Bureau of Highways	Subin George	Engineering Specialist III
Department of Community Resources and Services	Jackie Scott	Director
Columbia Association	Monica McMellon-Ajayi	Director of Human Resources, Equity, and Inclusion
Department of Technology and Communication Services	Brandee Ganz	Director (now County Executive's Chief Administrative Officer)

Department of Fire & Rescue Services—Office of Emergency Management	Callie Gorgol	Senior Emergency Management Specialist (now Acting Deputy Director)
Department of Technology and Communication Services	Matthew Harvey	Technical Services Manager I
Department of Public Works	Arthur Shapiro	Acting Director (now Bureau Chief of Utilities)
Department of Planning and Zoning	Brian Shepter	Deputy Director (now County Executive’s Deputy Chief of Staff)

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# 2024 Howard County Hazard Mitigation/Flood Mitigation Plan Update

## Joint Steering Committee Meeting #2

February 1, 2023: 1:00pm-3:00pm

Carroll Building, 3450 Courthouse Drive, Ellicott City, MD 21043



## HOWARD COUNTY OFFICE OF EMERGENCY MANAGEMENT

*Director*  
*Mike Hinson*

*County Executive*  
*Calvin Ball*

### Howard County 2024-2029 Hazard Mitigation and Flood Mitigation Plan Update

#### Steering Committee Meeting #2

#### Agenda

Date: February 1, 2023

Time: 1:00-3:00 PM

- 1) Introduction
  - a) Howard County Office of Emergency Management
    - i) Check-in procedures
  - b) Project Update
    - i) First Public Meeting
- 2) Hazard Identification and Risk Assessment (HIRA)
  - a) Natural Hazard Risk Rankings
  - b) HIRA Incorporation into HMP instead of Hazus
- 3) Risk Assessment
  - a) Update on use of Hazus
- 4) Next Steps
- 5) Open Discussion
- 6) Mitigation Action Item Prioritization
  - a) Current Scores
  - b) Q&A on Workbooks
    - i) If attendees have already submitted their workbooks and have no questions, they may leave at this time.
- 7) Adjourn

FIGURE 64: SAMPLE SLIDE FROM OEM PRESENTATION AT JSC MEETING 2



Lauren Chilton of the Howard County Office of Emergency Management (OEM), with assistance from Michael Tennison, a consultant from the University of Maryland Center for Health and Homeland Security, led the second Joint Steering Committee (JSC) meeting on February 1, 2023. Participants, including partners from a variety of relevant County departments as well as community stakeholders, convened virtually for meeting held in the OEM conference room.

After introductions, OEM updated the JSC on its progress updating the Natural Hazard Mitigation Plan (NHMP), including the status of each chapter. OEM recapped the first public meeting with a summary of the presentation and discussion. Next, OEM presented findings from the County’s newly updated 2023 Hazard Identification and Risk Assessment (HIRA) and discussed the elements to be incorporated into the NHMP, such as the recalculated risk rankings and two additional hazards, space weather and pest infestation/zoonotic infection. After presenting the anticipated timeline for remaining NHMP update milestones, OEM reviewed the prioritization rubric that JSC members used to re-rank all hazard mitigation action items and to rank new items. OEM then provided an overview of highlights from the prioritizations. Finally, OEM led a discussion about the integration of other County plans into the NHMP, such as the forthcoming Climate Action Plan.

**Attendance (JSC Members in Gray)**

Affiliation	Name	Title
Department of Public Works— Bureau of Utilities	Arthur Shapiro	Bureau Chief
Department of Planning & Zoning—Resource Conservation Division	Beth Burgess	Division Chief
Participating as Howard County Resident/Maryland Department of the Environment—Waterway Permits	William Seiger	Howard County Resident
Department of Inspections, Licenses, & Permits— Operations Division	Bob Firmani	Division Chief
Department of Public Works: Bureau of Environmental Services—Stormwater Management Division	Brian Cleary	Engineering Specialist III
Department of Fire & Rescue Services—Office of Emergency Management	Caleb Goodie	Emergency Management Specialist II (no longer with the County)
Department of Fire & Rescue Services—Office of Emergency Management	Lauren Chilton	Emergency Management Specialist II
Department of Fire & Rescue Services—Office of Emergency Management	Hannah Robinson	Emergency Management Specialist II
Howard County Administration—Office of Transportation	Chris Eatough	Bicycle and Pedestrian Coordinator (standing in for Bruce Gartner)
Department of Public Works: Bureau of Environmental Services--Stormwater Management Division	Christine Lowe	Engineering Specialist III
Baltimore County Office of Emergency Management	David Bycoffe	Director
Department of Inspections, Licenses, & Permits—Plans Review Division	Don Mock	Division Chief

Howard County Administration—County Executive’s Office	Felix Facchine	Assistant Chief of Staff
Department of Technology and Communication Services	Glenn Hansen	Public Safety IT Project Manager
Department of Community Resources & Services	Jackie Scott	Director
Howard County Police Department—Operational Preparedness and Support Division	Ron Jason Baker	Lieutenant
Department of Public Works: Bureau of Facilities	Kenn Hamm	Assistant to the Chief
Department of Public Works: Bureau of Highways	Kris Jagarapu	Bureau Chief
Department of Planning & Zoning—Comprehensive and Community Planning Division	Kristin O’Connor	Division Chief
Howard EcoWorks	Lori Lilly	Executive Director
Department of Public Works: Bureau of Environmental Services	Mark DeLuca	Bureau Chief
Department of Public Works: Bureau of Environmental Services--Stormwater Management Division	Mark Richmond	Division Chief
Department of Public Works: Bureau of Facilities	Zach Hollenbeck	Deputy Chief
Department of Public Works: Bureau of Utilities	Ross Beschner	Deputy Chief
Department of Public Works: Bureau of Facilities	Sharon Walsh	Bureau Chief
Department of Fire & Rescue Services—Special Operations	Stephen Hardesty	Battalion Chief



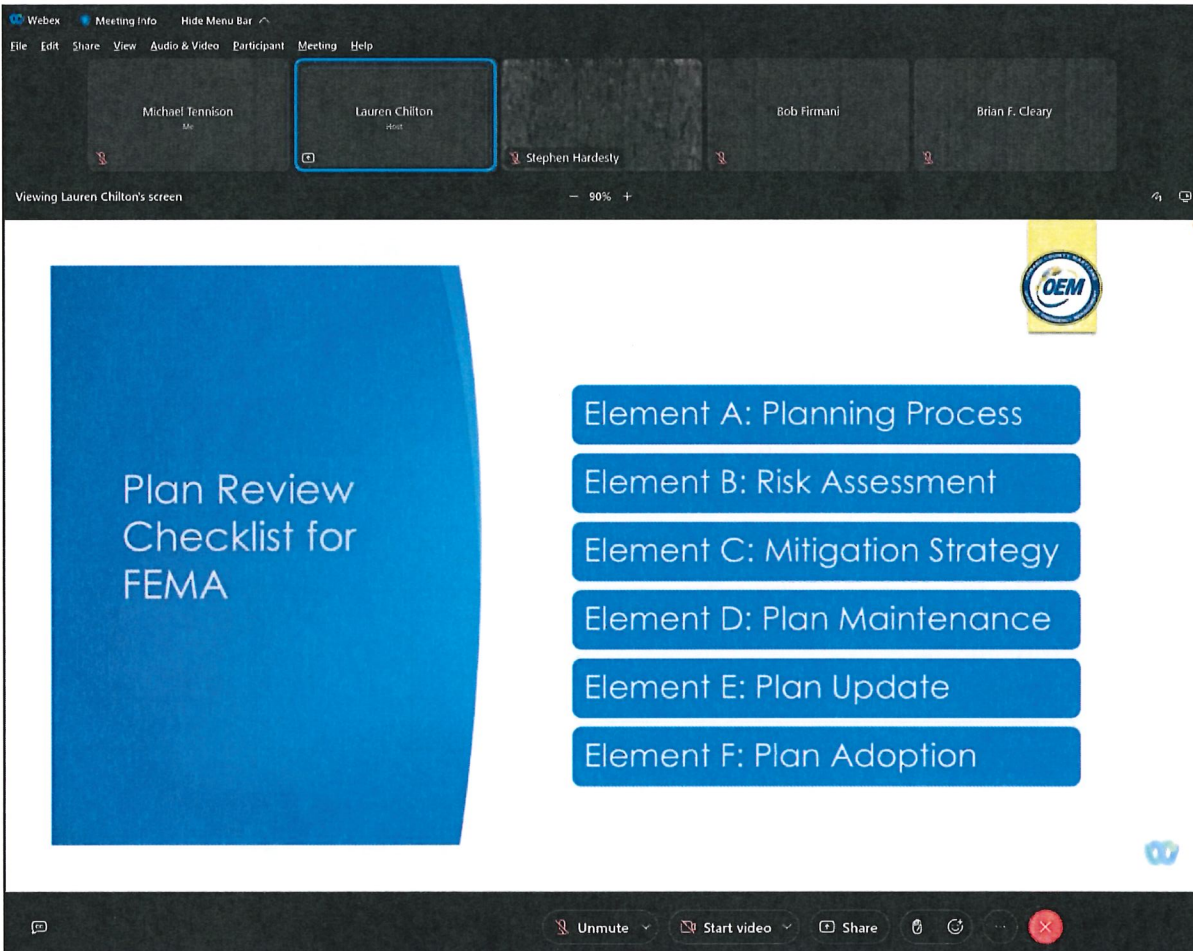
# 2024 Howard County Natural Hazard Mitigation/Flood Mitigation Plan Update

## Joint Steering Committee Meeting #3 (Virtual)

April 19, 2023: 1:00pm-3:00pm

Howard County OEM WebEx Meeting Room

FIGURE 65: SAMPLE SLIDE FROM OEM PRESENTATION AT JSC MEETING 3



Lauren Chilton of the Howard County Office of Emergency Management (OEM), with assistance from Michael Tennison, a consultant from the University of Maryland Center for Health and Homeland Security, led the third Joint Steering Committee (JSC) meeting on April 19, 2023. Participants, including partners from a variety of relevant County departments as well as community stakeholders, convened virtually for a meeting held in the OEM WebEx virtual meeting room.

After introductions, OEM updated the JSC on recent public meetings about the Natural Hazard Mitigation Plan and Flood Mitigation Plan held on March 22, 2023, and March 29, 2023. Next, OEM discussed the feedback from JSC members and from the public regarding drafts of both plans, and how

this feedback was incorporated into the final drafts. OEM discussed the addition of several new action items, as well as their descriptions and prioritization in the Implementation Plan; no JSC members dissented to these items. OEM also discussed FEMA’s regulatory requirements for Natural Hazard Mitigation Plan, and how the Plan includes a “Plan Review Checklist” that identifies the sections and page numbers that satisfy each requirement.

Finally, the JSC voted to approve the Natural Hazard Mitigation Plan Update with a motion to approve from Lt. Jason Baker and a second from Lenora Painter. There was no dissension. The Flood Mitigation Plan Update was approved as well with a motion to approve from Mark Richmond and a second from Lenora Painter. Through approval, the JSC authorized release of both plan updates to MDEM and FEMA for review.

**Attendance (JSC Members in Gray)**

Affiliation	Name	Title
Department of Fire & Rescue Services--Office of Emergency Management	Lauren Chilton	Emergency Management Specialist II
University of Maryland Center for Health and Homeland Security	Michael Tennison	Senior Law and Policy Analyst and Consultant to Howard County OEM
Department of Inspections, Licenses, & Permits—Operations Division	Bob Firmani	Division Chief
Department of Public Works: Bureau of Environmental Services—Stormwater Management Division	Brian Cleary	Engineering Specialist III
Department of Fire & Rescue Services—Office of Emergency Management	Lauren Chilton	Emergency Management Specialist II
Department of Public Works: Bureau of Environmental Services--Stormwater Management Division	Christine Lowe	Engineering Specialist III
Department of Inspections, Licenses, & Permits—Plan Review	Don Mock	Division Chief
Howard County Police Department—Operational Preparedness and Support Division	Ron Jason Baker	Lieutenant

Howard County Police Department—Operational Preparedness and Support Division	Kelly Tibbs	Sergeant
Department of Planning & Zoning—Comprehensive and Community Planning Division	Kristin O’Connor	Division Chief
Howard EcoWorks	Lori Lilly	Executive Director
Department of Public Works: Bureau of Environmental Services--Stormwater Management Division	Mark Richmond	Division Chief
Department of Fire & Rescue Services—Special Operations	Stephen Hardesty	Battalion Chief
Department of Recreation and Parks—Bureau of Parks	Bryan Moody	Bureau Chief
Baltimore Gas and Energy	Marche Taylor Templeton	External Affairs Manager
Howard County Health Department—Bureau of Infection Control and Public Health Preparedness	Lenora Painter	Bureau Director
Department of Public Works—Bureau of Highways—Traffic Engineering Division	Jennifer Woo	Division Chief
Department of Public Works—Bureau of Engineering—Utility Design Division	Zack Knight	Project Manager
Howard County Administration—Office of Human Resources—Risk Management	Matt Zervas	Assistant Risk Manager

# Appendix B: Survey Results

## Community Hazard Survey

The Community Hazard Survey was released through multiple County channels and was left open for about a month. A total of 334 responses were received, with a 59% completion rate.

Posting	Date
Survey posted on OEM Nextdoor Account	9/16/2022
Survey sent via email to Community Organizations Active in Disaster	9/20/2022
Survey sent via email to the Local Emergency Planning Committee	9/27/2022

## Announcement Documentation

Samples of the survey release announcement are included below.

FIGURE 66: HOWARD COUNTY OEM NEXTDOOR ACCOUNT POST



Howard County Community Hazard Survey. The Howard County Office of Emergency Management is in the process of updating our Hazard Identification and Risk Assessment (HIRA). As part of this effort, you are all invited to complete the Howard County Community Hazard Survey. This survey is designed to provide insight on the attitudes of Howard County residents towards a wide range of human-caused and natural hazards. Results will be incorporated into our 2022-23 HIRA. Please find the survey at: <https://www.surveymonkey.com/r/9TYFSFR>

The survey should take about 25 minutes to complete. Results are anonymous and all demographic data is entirely optional, and will only be used in aggregate data analysis.

Thank you for your willingness to support Howard County's preparedness efforts. Any questions about the contents of the survey can be directed to the Office of Emergency Management at [emergencymanagement@howardcountymd.gov](mailto:emergencymanagement@howardcountymd.gov) or (410) 313-6030.



2022 Community Hazard Survey  
surveymonkey.com

Posted to **Subscribers of Howard County Office of Emergency Management**

FIGURE 67: HOWARD COUNTY OEM NEXTDOOR ACCOUNT POST (EMAIL CONFIRMATION)

**From:** Nextdoor <[reply@rs.email.nextdoor.com](mailto:reply@rs.email.nextdoor.com)>  
**Sent:** Friday, September 16, 2022 3:09:29 PM  
**To:** Goodie, Caleb <[cgoodie@howardcountymd.gov](mailto:cgoodie@howardcountymd.gov)>  
**Subject:** Howard County Community Hazard Survey

[Note: This email originated from outside of the organization. Please only click on links or attachments if you know the sender.]

### Unsubscribe

It appears that you have subscribed to commercial messages from this sender. To stop receiving such messages from this sender, please [unsubscribe](#)

nextdoor



Howard County Community Hazard Survey Hello Howard County Residents, The...

[See more](#)

 Emergency Management Specialist Caleb Goodie **AGENCY**

    Share

[View post](#)

FIGURE 68: EMAIL TO COAD TO TAKE COMMUNITY HAZARD SURVEY

2022 Community Hazard Survey

← ⏪ ⏩ →



● Chilton, Lauren <lchilton@howardcountymd.gov>

Tuesday, September 20, 2022 at 1:17 PM

To: [REDACTED]

Good afternoon, COAD Leadership,

OEM is working on updating its Hazard Identification and Risk Analysis (HIRA). We would like to reach as many people in the County as possible by using an online survey. Anyone in the County can take the 2022 Community Hazard Survey using the following link: <https://www.surveymonkey.com/r/FLK7GX2>.

We would greatly appreciate if you could circulate this survey among COAD members.

Thank you!



Lauren Chilton, MIA  
She/Her/Hers  
*Emergency Management Specialist II*  
Howard County Office of Emergency Management  
Phone: 410-313-0713  
[Website](#) | [Facebook](#) | [Twitter](#)

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FIGURE 69: EMAIL TO LEPC TO TAKE COMMUNITY HAZARD SURVEY

[MARKETING] Follow Up from September LEPC Meeting



○ Howard County OEM <emergencymanagement@howardcountymd.gov>

Tuesday, September 27, 2022 at 11:59 AM

To: ● Chilton, Lauren



## Just Following Up!

### Local Emergency Planning Committee

Howard County LEPC met on September 15, 2022 from 10:30 AM to 12:00 PM at Howard Community College. Attendees also could watch and participate in the meeting online through WebEx. There were about 47 attendees overall!

#### Important Links and Notes:

- [LEPC Page for Slides and Meeting Recording](#)
- [2022 Community Hazard Survey](#) - Please take this survey to help OEM gather information for our Hazard Identification and Risk Analysis!
- If you would like a [free NOAA Weather Radio](#), please email [emergencymanagement@howardcountymd.gov](mailto:emergencymanagement@howardcountymd.gov) to arrange pick up.
- Next LEPC meeting will likely be in early December or in January. This could change due to the holiday season. Details to come!

**Thank you for your participation!**

## Results

The results of this survey were used by the Hazard Identification and Risk Assessment (HIRA) Steering Committee when calculating scores risk scores.

The survey went through a set of questions for each of the 25 hazards (both natural and human-caused). For this Plan, we will only be examining the results for the eleven natural hazards that were identified by the (HIRA) Steering Committee. The following four questions were asked about each natural hazard:

1. Please rate your confidence in Howard County's ability to respond to and recover from this hazard. (Answer choices were Extremely Low, Low, Moderate, and High)
2. Please rate your confidence in your own ability to protect yourself and your family from this hazard. (Answer choices were Extremely Low, Low, Moderate, and High)

3. How concerned would you be for the physical safety of yourself and your loved ones if this hazard event were to occur in Howard County? (Answer choices were Not Concerned, Mildly Concerned, Somewhat Concerned, and Extremely Concerned)
4. How concerned would you be for your ability to maintain your current standard of living and quality of life if this hazard event were to occur in Howard County? (Answer choices were Not Concerned, Mildly Concerned, Somewhat Concerned, and Extremely Concerned)

### Extreme Temperature Hazard Results

Question	Extremely Low	Low	Moderate	High
Please rate your confidence in Howard County's ability to respond to and recover from this hazard.	9.32%	21.61%	41.53%	27.54%
Please rate your confidence in your own ability to protect yourself and your family from this hazard.	5.08%	17.37%	46.61%	30.93%

Question	Not Concerned	Mildly Concerned	Somewhat Concerned	Extremely Concerned
How concerned would you be for the physical safety of yourself and your loved ones if this hazard event were to occur in Howard County?	14.41%	33.90%	35.59%	16.10%
How concerned would you be for your ability to maintain your current standard of living and quality of life if this hazard event were to occur in Howard County?	25.11%	32.34%	29.36%	13.19%

### Lightning Hazard Results

Question	Extremely Low	Low	Moderate	High
Please rate your confidence in Howard County's ability to respond to and recover from this hazard.	7.05%	8.37%	35.24%	49.34%



Please rate your confidence in your own ability to protect yourself and your family from this hazard.	8.93%	18.30%	39.73%	33.04%
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Question	Not Concerned	Mildly Concerned	Somewhat Concerned	Extremely Concerned
How concerned would you be for the physical safety of yourself and your loved ones if this hazard event were to occur in Howard County?	36.44%	28.44%	24.89%	10.22%
How concerned would you be for your ability to maintain your current standard of living and quality of life if this hazard event were to occur in Howard County?	51.79%	23.66%	17.41%	7.14%

### Severe Winter Weather Hazard Results

Question	Extremely Low	Low	Moderate	High
Please rate your confidence in Howard County's ability to respond to and recover from this hazard.	3.86%	10.14%	42.03%	43.96%
Please rate your confidence in your own ability to protect yourself and your family from this hazard.	1.95%	6.34%	50.24%	41.46%

Question	Not Concerned	Mildly Concerned	Somewhat Concerned	Extremely Concerned
How concerned would you be for the physical safety of yourself and your loved ones if this hazard event were to occur in Howard County?	18.93%	37.86%	33.50%	9.71%
How concerned would you be for your ability to maintain your current standard of living and	39.81%	32.04%	19.90%	8.25%

quality of life if this hazard event were to occur in Howard County?				
--	--	--	--	--

### Flood Hazard Results

Question	Extremely Low	Low	Moderate	High
Please rate your confidence in Howard County's ability to respond to and recover from this hazard.	8.05%	22.31%	46.19%	22.46%
Please rate your confidence in your own ability to protect yourself and your family from this hazard.	7.69%	18.38%	41.88%	32.05%

Question	Not Concerned	Mildly Concerned	Somewhat Concerned	Extremely Concerned
How concerned would you be for the physical safety of yourself and your loved ones if this hazard event were to occur in Howard County?	16.67%	36.32%	32.05%	14.96%
How concerned would you be for your ability to maintain your current standard of living and quality of life if this hazard event were to occur in Howard County?	26.50%	32.91%	28.21%	12.39%

### Tornado Hazard Results

Question	Extremely Low	Low	Moderate	High
Please rate your confidence in Howard County's ability to respond to and recover from this hazard.	7.50%	13.50%	48.50%	30.50%
Please rate your confidence in your own ability to protect yourself and your family from this hazard.	13.00%	27.50%	48.00%	11.50%

Question	Not Concerned	Mildly Concerned	Somewhat Concerned	Extremely Concerned

How concerned would you be for the physical safety of yourself and your loved ones if this hazard event were to occur in Howard County?	12.00%	29.00%	33.50%	25.50%
How concerned would you be for your ability to maintain your current standard of living and quality of life if this hazard event were to occur in Howard County?	31.00%	26.50%	26.50%	16.00%

### Drought Hazard Results

Question	Extremely Low	Low	Moderate	High
Please rate your confidence in Howard County's ability to respond to and recover from this hazard.	11.24%	30.62%	42.64%	15.50%
Please rate your confidence in your own ability to protect yourself and your family from this hazard.	11.20%	27.41%	44.02%	17.37%

Question	Not Concerned	Mildly Concerned	Somewhat Concerned	Extremely Concerned
How concerned would you be for the physical safety of yourself and your loved ones if this hazard event were to occur in Howard County?	18.68%	31.13%	32.30%	17.90%
How concerned would you be for your ability to maintain your current standard of living and quality of life if this hazard event were to occur in Howard County?	15.44%	31.66%	31.66%	21.24%

### Hurricane Hazard Results

Question	Extremely Low	Low	Moderate	High
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Please rate your confidence in Howard County's ability to respond to and recover from this hazard.	7.36%	16.45%	47.62%	28.57%
Please rate your confidence in your own ability to protect yourself and your family from this hazard.	6.11%	19.65%	53.71%	20.52%

Question	Not Concerned	Mildly Concerned	Somewhat Concerned	Extremely Concerned
How concerned would you be for the physical safety of yourself and your loved ones if this hazard event were to occur in Howard County?	9.65%	29.82%	31.16%	22.37%
How concerned would you be for your ability to maintain your current standard of living and quality of life if this hazard event were to occur in Howard County?	20.26%	33.48%	29.52%	16.74%

### Wildfire Hazard Results

Question	Extremely Low	Low	Moderate	High
Please rate your confidence in Howard County's ability to respond to and recover from this hazard.	4.57%	16.24%	50.25%	28.93%
Please rate your confidence in your own ability to protect yourself and your family from this hazard.	14.80%	32.65%	34.69%	17.86%

Question	Not Concerned	Mildly Concerned	Somewhat Concerned	Extremely Concerned
How concerned would you be for the physical safety of yourself and your loved ones if this hazard event were to occur in Howard County?	16.75%	27.92%	35.03%	20.30%

How concerned would you be for your ability to maintain your current standard of living and quality of life if this hazard event were to occur in Howard County?	26.40%	28.93%	28.43%	16.24%
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### Earthquake Hazard Results

Question	Extremely Low	Low	Moderate	High
Please rate your confidence in Howard County's ability to respond to and recover from this hazard.	12.60%	22.83%	46.46%	18.11%
Please rate your confidence in your own ability to protect yourself and your family from this hazard.	16.54%	31.10%	40.94%	11.42%

Question	Not Concerned	Mildly Concerned	Somewhat Concerned	Extremely Concerned
How concerned would you be for the physical safety of yourself and your loved ones if this hazard event were to occur in Howard County?	9.02%	34.12%	34.12%	22.75%
How concerned would you be for your ability to maintain your current standard of living and quality of life if this hazard event were to occur in Howard County?	18.25%	35.71%	27.38%	18.65%

### Space Weather Hazard Results

Question	Extremely Low	Low	Moderate	High
Please rate your confidence in Howard County's ability to respond to and recover from this hazard.	33.33%	31.37%	26.96%	8.33%
Please rate your confidence in your own ability to protect yourself and your family from this hazard.	36.95%	34.48%	21.18%	7.39%

Question	Not Concerned	Mildly Concerned	Somewhat Concerned	Extremely Concerned
How concerned would you be for the physical safety of yourself and your loved ones if this hazard event were to occur in Howard County?	19.70%	29.56%	27.59%	23.15%
How concerned would you be for your ability to maintain your current standard of living and quality of life if this hazard event were to occur in Howard County?	23.65%	30.05%	24.14%	22.17%

### Pest Infestation/ Zoonotic Infection Hazard Results

Question	Extremely Low	Low	Moderate	High
Please rate your confidence in Howard County's ability to respond to and recover from this hazard.	11.68%	23.83%	47.20%	17.29%
Please rate your confidence in your own ability to protect yourself and your family from this hazard.	8.92%	20.19%	56.81%	14.08%

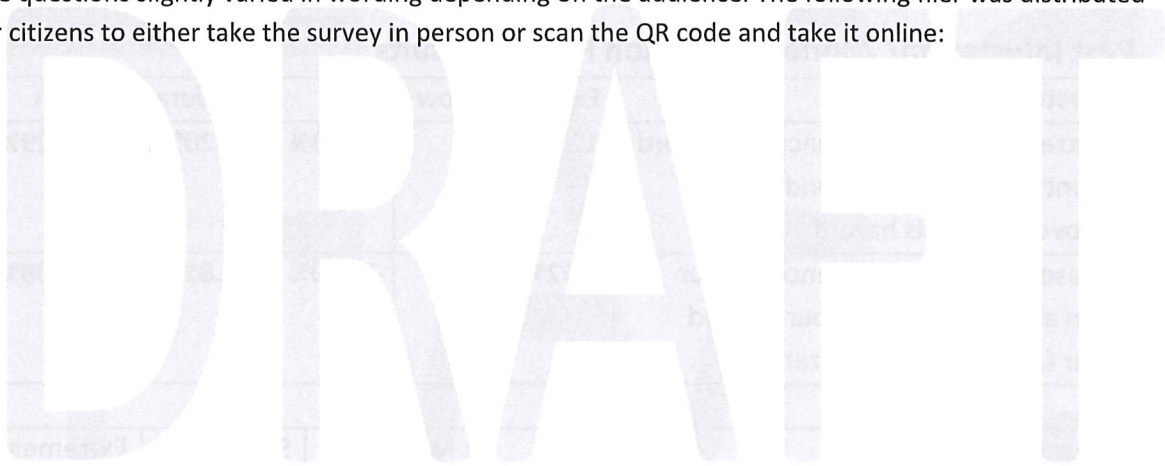
Question	Not Concerned	Mildly Concerned	Somewhat Concerned	Extremely Concerned
How concerned would you be for the physical safety of yourself and your loved ones if this hazard event were to occur in Howard County?	5.63%	35.68%	38.50%	20.19%
How concerned would you be for your ability to maintain your current standard of living and quality of life if this hazard event were to occur in Howard County?	19.16%	35.51%	31.31%	14.02%

## Short Form Surveys

In addition to the above survey, shorter surveys were developed for different groups to gather public comments on natural hazards and emergency preparedness. Surveys were distributed (with a virtual option as well) at the following events:

- January 13<sup>th</sup> Columbia Rotary Club after Emergency Preparedness presentation (3 were filled out).
- January 20<sup>th</sup> Oakland Mills Career Fair at OEM’s booth (22 were filled out).
- March 22<sup>nd</sup> Howard County OEM and Stormwater Management Division’s Public Meeting on the Natural Hazard Mitigation Plan and Flood Mitigation Plan.
- March 29<sup>th</sup> Howard County OEM and Stormwater Management Division’s Virtual Public Meeting on the Natural Hazard Mitigation Plan and Flood Mitigation Plan.

The questions slightly varied in wording depending on the audience. The following flier was distributed for citizens to either take the survey in person or scan the QR code and take it online:



# Natural Hazard Mitigation Plan Survey

The Howard County Office of Emergency Management (OEM) invites you to participate in a survey to gather public feedback for the 5-year update of our Natural Hazard Mitigation Plan. To view the current plan and feedback form, please go to this link: <https://www.howardcountymd.gov/emergency-management/2024-2029-howard-county-hazard-mitigation-plan-update>

Your feedback from this survey will be incorporated into the updated plan which will be in effect from January 2024-2029. A rough draft was posted to the the OEM website in February of 2023 for public comment, and this period ends on April 7, 2023.

To take this survey online, please go to the link or use the QR Code:  
<https://www.surveymonkey.com/r/XQWW3VR>



**What natural hazards are you most concerned could impact you or your home? Please check all that apply.**

- Floods
- Tornadoes
- Fire
- Snow/Ice
- Earthquake
- Other:

**Do you feel prepared for the hazards/threats you checked? Please explain.**

- Yes
- No

**Tell us something that would improve your ability to recover from a natural disaster, for example, a flood?**

**In the context of being prepared for natural disasters and recovering from them, what needs in your community do you see that are not being met? Please explain.**

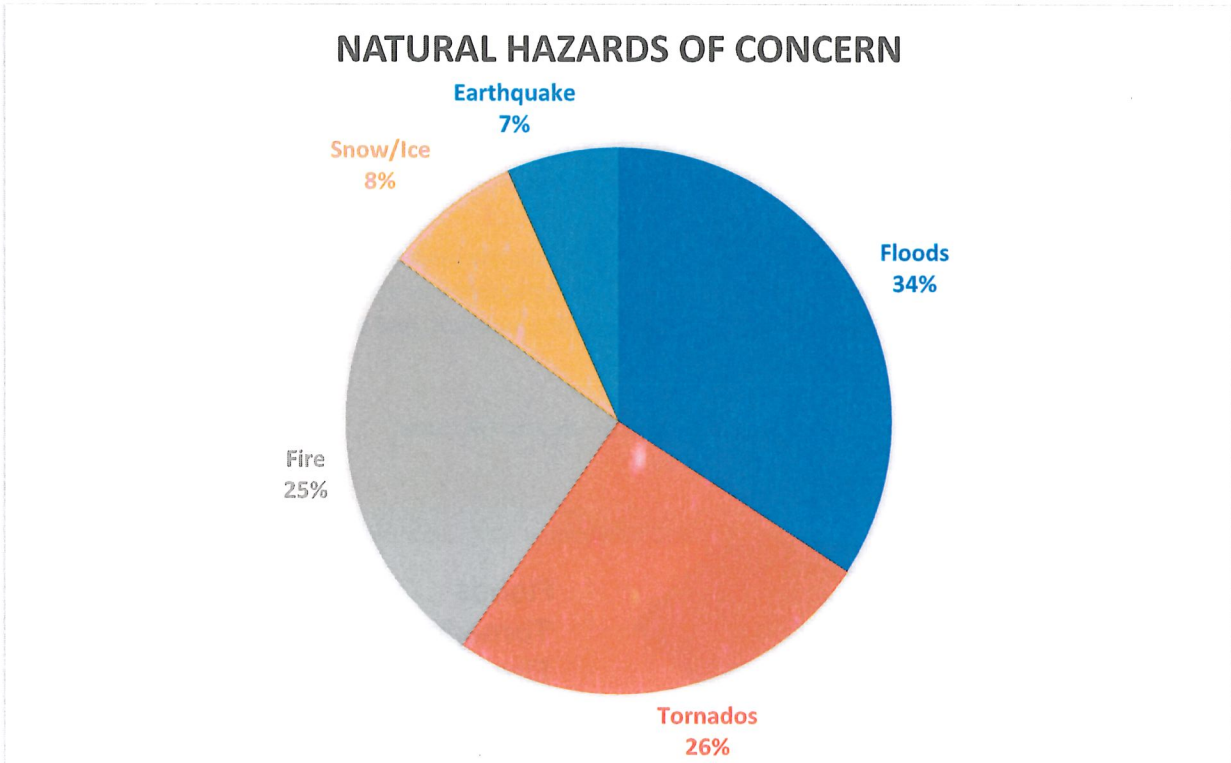
**Does your home have any of the following for emergencies?**

- Emergency Kit or "Go Bag"
- Evacuation Plan
- An Alternate Source of Power

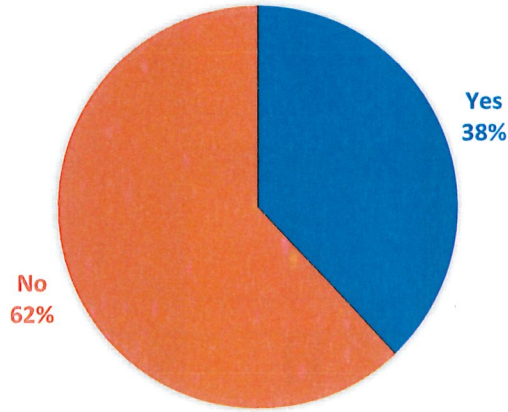


## Results

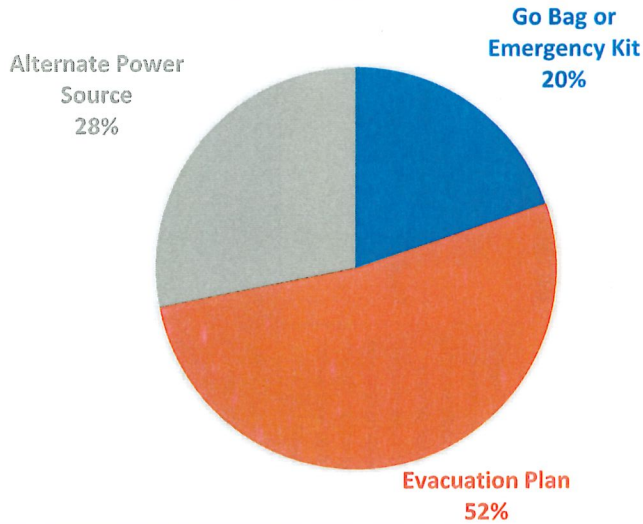
The results of the short form surveys with 26 respondents can be found in the table below:



### DO YOU FEEL PREPARED FOR THE HAZARDS YOU CHECKED?



### DO YOU HAVE THE FOLLOWING FOR EMERGENCIES?



For the long answer portion of the survey, most respondents noted that they would feel more prepared if they had access to additional financial security options, generators, food caches, advanced notice of emergencies, and to make emergency plans with their households.

# Appendix C: Flood Mitigation Actions

Mitigation					Prioritization				Implementation			
Action ID	Project Description	Hazard(s) Mitigated	Lead Agency	Support Agency	Life/Safety Impact	Admin/Tech Assistance	Cost Ranking	Total	Funding Source	Est. Cost	Timeline	Action Category
<b>INCOMPLETE/ONGOING ACTIONS (AS OF JAN 2023 UPDATE)</b>												
1	Notify the public when the County conducts sampling and analysis of public drinking water supply sources to raise awareness for private property owners who have private wells and who may wish to test and analyze their drinking water. Health Department is limited to well water testing in areas exposed to flooding.	Flooding	DPW - Utilities, Health Dept; PIO		5	3	4	12	County Funds	Staff Time; Water sampling costs	Ongoing	Public Education and Outreach
2	Conduct sampling and analysis of public drinking water supply sources, in flooded areas, immediately after a major (100yr) flood event and issue boil water advisories as needed. Health Department is limited to well water testing in areas exposed to flooding.	Flooding	DPW - Utilities; Health Dept		6	3	3	12	County Funds	Staff Time; Water sampling costs, Laboratory Costs	Ongoing	Public Education and Outreach
3	Continue to monitor and remove significant debris blockages to minimize debris accumulation within the County-owned stream channels. A part of Safe and Sound Program and debris management plan.	Flooding, Tornado/ Wind Storm, Winter Storm/ Nor'easter	DPW Environmental Services; Highways/OEM	OCS	5	3	4	12	County Funds	Staff Time	Ongoing	Preventive Measures

Mitigation					Prioritization				Implementation			
Action ID	Project Description	Hazard(s) Mitigated	Lead Agency	Support Agency	Life/Safety Impact	Admin/Tech Assistance	Cost Ranking	Total	Funding Source	Est. Cost	Timeline	Action Category
4	Update the County floodplain ordinance to comply with the Model Floodplain Management Ordinance prepared by MDE.	Flooding	DPW-SWMD	DILP; DPZ; Office of Law	4	4	4	12	County Funds	Staff Time	Ongoing	Preventive Measures
5	Continue to update as needed and enforce Title 3-Buildings and Title 16-Planning, Zoning and Subdivision and Land Development Regulations, Article II-Design Standards and Requirements, and Subtitle 7- Floodplain: namely Section 3114 Floodplain, which defines building codes in and adjacent to floodplains; Section 16.115, which protects streams, wetlands, and steep slopes from future development; and all of Subtitle 7, which defines the County's authority and all other regulations related to floodplains.	Flooding	DPZ; DILP; DPW SWMD		4	3	4	11	County Funds	Staff Time	Ongoing	Preventive Measures
6	Continue to update as needed and enforce the incorporation of State and local storm water management regulations and progressive techniques into all development plans.	Flooding	DPZ		4	3	4	11	County Funds	Staff Time	Ongoing	Preventive Measures
7	Considering the impacts of climate change, evaluate infrastructure on frequently flooded roadways to determine whether the roads/bridges/culverts need to be upgraded to lessen the frequency of flooding. Prioritize projects and seek funding.	Flooding	DPW - Bureau of Engineering, Transportation and Special Projects Division; DPW-SWMD		5	3	3	11	County Funds; Federal Grants for roads (and County match)	Staff Time for County roads; – County conveying information to SHA for State roads	Ongoing /As needed	Structural Projects

Mitigation					Prioritization				Implementation			
Action ID	Project Description	Hazard(s) Mitigated	Lead Agency	Support Agency	Life/Safety Impact	Admin/Tech Assistance	Cost Ranking	Total	Funding Source	Est. Cost	Timeline	Action Category
8	When beaver dams are identified and located, continue to monitor the dams. Dismantle dams if they pose a flooding threat.	Flooding	DRP		3	4	4	11	County Funds	Staff Time	Ongoing /As needed	Natural Resources
9	Review and reevaluate the existing codes for County retaining walls.	Flooding	DILP		3	4	4	11	County Funds	Staff Time	Ongoing	Structural Projects
10	Evaluate the new FEMA floodplain, including non-structure hazards within 100 feet of the flood zone on an as needed basis.	Flooding	DPW SWMD, Department of Technology and Comm. Services		3	4	4	11	County Funds	Staff Time	Ongoing	Preventive Measures
11	Continue to work on issues related to floodplain identification and mapping risk; responsible floodplain management; and flood insurance. Continue to ensure compliance with the National Flood Insurance Program.	Flooding	DPZ, DPW SWMD, DILP		4	3	4	11	County Funds	Staff Time	Ongoing	Preventive Measures
12	Integrate relevant flood mitigation considerations from other studies into the overall County flood mitigation strategy as applicable.	Flooding	DPW SWMD, OEM		4	3	4	11	County Funds	Staff Time	Ongoing	Preventive Measures
13	Inventory existing culverts that are maintained by the Department of Public Works, Bureau of Highways and create an addressable GIS layer.	Flooding	DPW, Bureau of Highways; Bureau of Engineering; Bureau of Environmental Services; Department of Technology and Comm. Services, GIS Unit		3	3	4	10	County Funds	Staff Time	Ongoing	Structural Projects

Mitigation					Prioritization				Implementation			
Action ID	Project Description	Hazard(s) Mitigated	Lead Agency	Support Agency	Life/Safety Impact	Admin/Tech Assistance	Cost Ranking	Total	Funding Source	Est. Cost	Timeline	Action Category
14	Ensure reconstruction activities are compliant with NFIP substantial damage/improvement requirements and existing codes.	Flooding	DILP		3	3	4	10	County Funds	Staff Time	Ongoing	Preventive Measures
15	Assess the use of environmental site design projects to increase stormwater capacity and public education.	Flooding	DPW SWMD; DPZ; DRP; Office of Community Sustainability		3	3	4	10	Watershed Protection and Restoration Fund; County Funds	Staff Time	Ongoing	Public Education and Outreach
16	Identify and pursue incentives to mitigate private and public properties from flood hazards through the following techniques: elevation, acquisition/demolition, and dry/wet floodproofing.	Flooding	SWMD; DPZ; DILP	County Admin.	5	3	2	10	County Funds; Grant and non-grant options	Staff Time	Ongoing	Property Protection
17	Assess County-owned flood/channel walls after a major flood inundation event to determine if the structural integrity of any wall may be compromised and recommend repairs as needed to reduce the chances of wall failure.	Flooding	DPW - Transportation and Special Projects		4	3	3	10	County Funds	Staff Time	Ongoing	Structural Projects
18	Continue to administer the Forest Mitigation Program to establish new forests in parkland and along streams and rivers, to protect against erosion and uprooting trees.	Flooding	DRP	OCS	3	3	4	10	Fee-in-lieu of forest conservation funds	Staff Time	Ongoing	Natural Resources

Mitigation					Prioritization				Implementation			
Action ID	Project Description	Hazard(s) Mitigated	Lead Agency	Support Agency	Life/Safety Impact	Admin/Tech Assistance	Cost Ranking	Total	Funding Source	Est. Cost	Timeline	Action Category
19	Change the "Frequently Flooded Roads" map to "Flood Prone Roads" map, update, and include Old Ellicott City Roads.	Flooding	DPW-Bureau of Environmental Services, Stormwater Management Division	DPW-Bureau of Highways; Department of Technological and Communication Services	2	4	5	11	County Funds	Staff Time	1-2 years	Emergency Services
19	Assess all County-owned retaining walls to see if they need to be reinforced and prioritize that work.	Flooding	DPW - Bureau of Engineering, Transportation and Special Projects Division, DPW-SWMD		3	3	3	9	County Funds	Staff Time	Ongoing	Structural Projects
20	Continue to work with property owners to increase vegetation in riparian buffers through the Plant-It-Green program, which consists of supplying free trees to plant adjacent to the streams to reduce velocity of storm water and to stabilize soil.	Flooding	DRP	OCS	3	3	3	9	County Funds; Watershed Protection and Restoration Fund; CoastSmart Grant	\$50,000-100,000	Ongoing	Public Education and Outreach
21	Assess, implement, and maintain stream restoration and bank stabilization techniques on County-controlled property to reduce bank erosion, as needed.	Flooding	DPW SWMD		4	3	2	9	County Funds	Staff Time	Ongoing	Natural Resources

Mitigation					Prioritization				Implementation			
Action ID	Project Description	Hazard(s) Mitigated	Lead Agency	Support Agency	Life/Safety Impact	Admin/Tech Assistance	Cost Ranking	Total	Funding Source	Est. Cost	Timeline	Action Category
22	Conduct an engineering study to identify and plan for flood risk mitigation alternatives, such as temporary or permanent flood barriers, elevating or relocating equipment, and/or other flood risk mitigation facility improvements at the County's wastewater treatment plant, the Little Patuxent Reclamation Plant.	Flooding	DPW- Bureau of Engineering, Utility Design Division		5	3	1	9	County Funds	Staff Time	Ongoing	Emergency Services
23	Sequentially construct flood risk mitigation measures, such as temporary or permanent flood barriers, elevating or relocating equipment, and/or other flood risk mitigation facility improvements at the County's wastewater treatment plant, the Little Patuxent Water Reclamation Plant.	Flooding	DPW-Bureau of Engineering, Utility Design Division		5	3	1	9	County Funds; Grant and non-grant options	Staff Time	Long-range	Emergency Services
<b>COMPLETED ACTIONS (AS OF JAN 2023 UPDATE)</b>												
A	Identify all designated historic properties that are located in the County's 100-year floodplains.	Flooding	OEM, DPZ - Hist Pres.; DPW		2	3	3	8	MHT; FEMA HMA; County Funds	Staff Time	Complete	Preventive Measures
B	Assess the vulnerability historic and cultural resources located in the 100-year floodplain, and determine appropriate mitigation techniques that account for historic integrity, significance, and designation.	Flooding	OEM; DPZ - Hist Pres.		2	3	3	8	County Funds	Staff Time	Complete	Preventive Measures



Mitigation					Prioritization			Implementation				
Action ID	Project Description	Hazard(s) Mitigated	Lead Agency	Support Agency	Life/Safety Impact	Admin/Tech Assistance	Cost Ranking	Total	Funding Source	Est. Cost	Timeline	Action Category
C	Collect structural elevation-related data for historic buildings/structures in the floodplain, including but not limited to, elevation of the first floor, lowest opening, and lowest adjacent grade, and incorporate that data into the appropriate existing County GIS layer(s).	Flooding	DPZ - Hist Pres.		2	3	3	8	County Funds	Staff Time	Ongoing	Preventive Measures

DRAFT

# Appendix D: Press Releases, Notices, and Public Participation

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A requirement of the planning process is not only soliciting input from the public and stakeholders in developing the plans, but to keep them informed on the entire process as well.

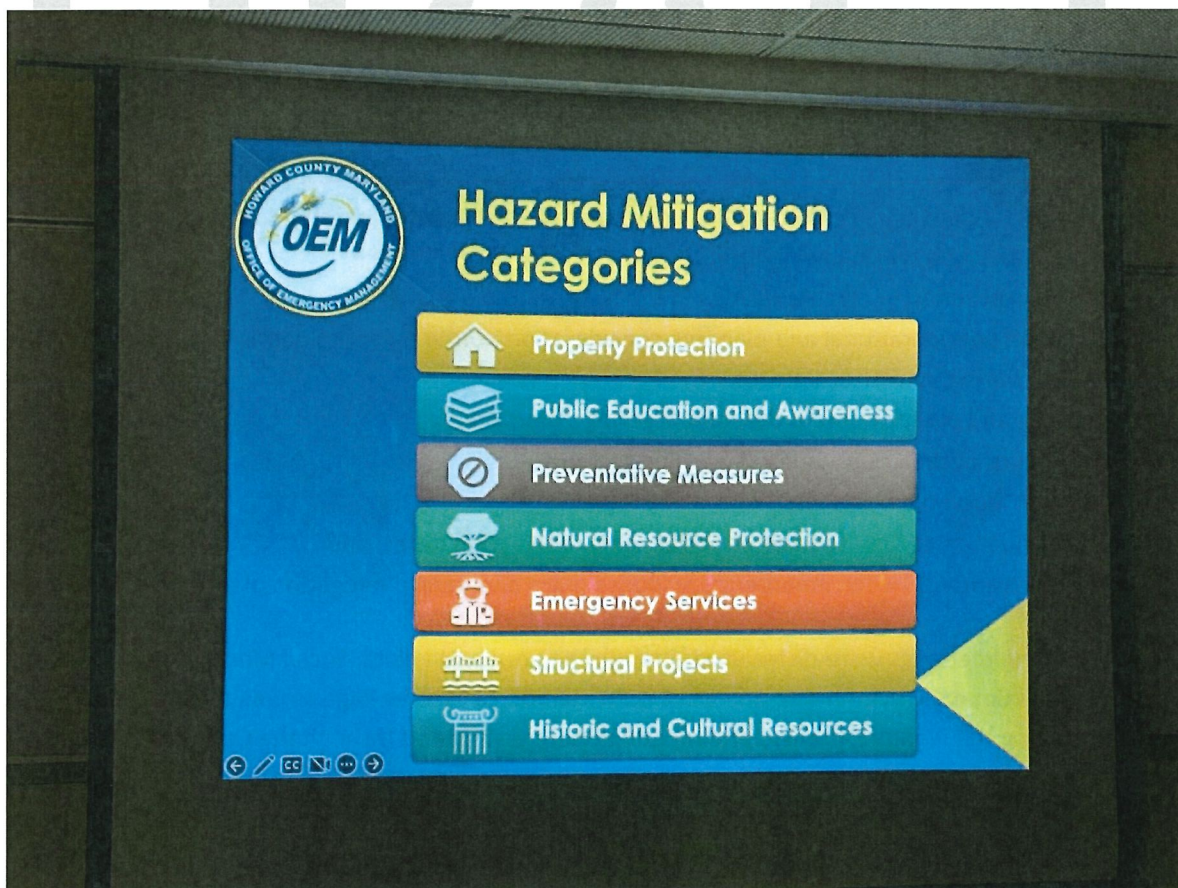
## Federal:

44 CFR § 201.6(c)(1): The plan must include “Documentation of the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.”

## Public Meeting #1

November 17, 2022: 5:30pm-7:00pm

Gary J. Arthur Community Center, Dayton Room, 2400 Rte 97, Cooksville, MD



Lauren Chilton of the Howard County Office of Emergency Management (OEM), with assistance from Mark Richmond, Howard County Department of Public Works, Stormwater Management Division (SWMD), led the first hazard mitigation public meeting on November 17, 2022. Additional participants included Mike Hinson, OEM Director, and Michael Tennison, a consultant from the University of Maryland's Center for Health and Homeland Security (CHHS) supporting OEM, and one member of the public attended.

After introductions, OEM provided an overview of hazard mitigation, including the planning process for the Natural Hazard Mitigation Plan, funding mechanisms, the relevant County plans and annexes, and the specific goals of hazard mitigation. Next, OEM discussed the incorporation of the County's Hazard Identification and Risk Analysis (HIRA), which identifies the natural and human-caused hazards in the County and quantifies the level of risk they pose. OEM also explained the role of mitigation action items in the Natural Hazard Mitigation Plan and the Flood Mitigation Plan, as well as how the items are updated and prioritized by the subject matter experts on the Joint Steering Committee.

OEM then displayed a map of frequently flooded roads in the County and asked the public for any additional roads that they did not see noted on the map. After discussing the map, OEM explained how members of the public can find and use an interactive version of the flood map on the County website. OEM concluded the presentation with a timeline for the remainder of the five-year update cycle, how the public can access the previous hazard mitigation and flood plans online and provide comments to OEM and DPW, and further contact information to get in touch with OEM and DPW.

Questions from the public generated a lively, wide-ranging discussion that lasted for the remainder of the meeting, focused on the following topics:

- The incorporation of climate change in the mitigation plans;
- The different operational and planning considerations with respect to debris management before, during, and after a storm;
- The role and composition of the Joint Steering Committee;
- The nature of the County's flood warning systems;
- 100-year flood plain studies;
- The evaluation criteria used to prioritize mitigation action items; and
- The difference between emergency response plans and hazard mitigation plans.

Notices regarding meetings were distributed through the County Website, Social Media, and Press outlets. Howard County Government, and OEM both maintain a Twitter Page as well as a Facebook. Notices regarding the Planning process and meetings were distributed through the County PIO Office which has distribution channels including newspaper, television, and partnering agencies. Samples of these informational releases and invitations are included below.

Public Meeting #1 Events Page Screenshot (with zoom in)

Howard County MARYLAND County Executive Calvin Ball Services Government Select Language Search

Search Enter keyword to search for events SEARCH

22 Results for: CLEAR ALL Popularity Asc

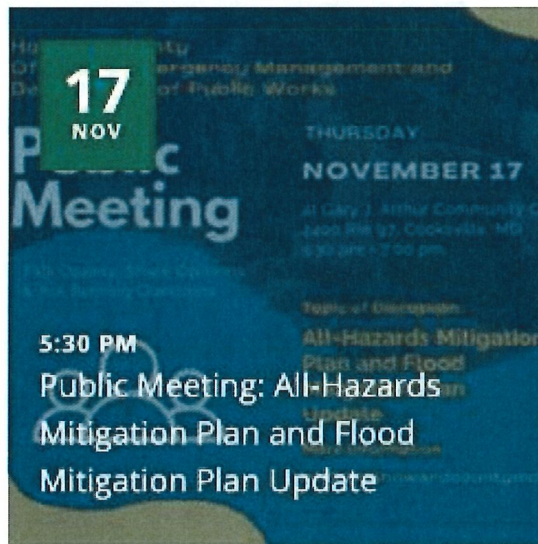
Department/Office Date 11/01/2022 To 11/18/2022 SHOW RESULTS

17 NOV 5:30 PM Public Meeting: All-Hazards Mitigation Plan and Flood Mitigation Plan Update

17 NOV 6:00 PM Ethics Commission Open Meeting

17 NOV 6:00 PM Archaeology in the Parks: Uprooted: Race, Public Housing and the Archaeology of Four Lost New Orleans Neighborhoods (All Ages)

17 NOV 7:00 PM Howard County Planning Board



## Public Meeting #1 Press Release

Friday, October 28, 2022 at 11:17:56 Eastern Daylight Time

**Subject:** Howard County's Office of Emergency Management to Host Public Meeting to Review Hazard Mitigation Plans  
**Date:** Friday, October 28, 2022 at 11:15:23 AM Eastern Daylight Time  
**From:** Bresani, Alexandra  
**To:** Bresani, Alexandra  
**Attachments:** ATP Scan In Progress.eml

The following news release went out to the media this morning.

pioNEWSrelease.jpg



October 28, 2022

**Media Contacts:**

Mark Miller, Administrator, Office of Public Information, 410-313-2022  
Lauren Chilton, Office of Emergency Management, 410-313-6030 (All-Hazards)  
Mark S. Richmond, Stormwater Management Division, 410-313-6413 (Flood)

### Howard County's Office of Emergency Management to Host Public Meeting to Review Hazard Mitigation Plans

ELLICOTT CITY, MD – Howard County's Office of Emergency Management (OEM) will hold a public meeting on Thursday, November 17<sup>th</sup> from 5:30 to 7:00 p.m. in the Dayton Room at the [Gary J. Arthur Community Center](#), 2400 MD 97 in Cooksville, to gather public input and discuss the County's All-Hazards Mitigation Plan and Flood Mitigation Plan. These plans define goals and actions that can be taken to mitigate impacts from a variety of hazards, including flooding, within the County. Every five years, the County is required to [update these plans](#).

Staff members from OEM and County's Department of Public Works (DPW) will be on hand to explain both plans, answer any questions, and gather public comments.

Those unable to attend the meeting who would like to view the information and/or have questions regarding the All-Hazards Mitigation Plan should contact Ms. Lauren Chilton with OEM at 410-313-6030 or by email at [emergencymanagement@howardcountymd.gov](mailto:emergencymanagement@howardcountymd.gov). For information and/or questions regarding the Flood Mitigation Plan, please contact Mr. Mark S. Richmond with DPW's Stormwater Management Division at 410-313-6413 or by email at [stormwater@howardcountymd.gov](mailto:stormwater@howardcountymd.gov).

An interpreter for people who are deaf or hard of hearing will be available if requested seven

Page 1 of 2

working days prior to the meeting. Please call DPW at 410-313-3440 (voice) or use Relay at 7-1-1, between 8:00 a.m. and 5:00 p.m., Monday through Friday.

For questions or more information about the meeting, contact Ms. Lauren Chilton, OEM, at 410-313-6030 or email [emergencymanagement@howardcountymd.gov](mailto:emergencymanagement@howardcountymd.gov).

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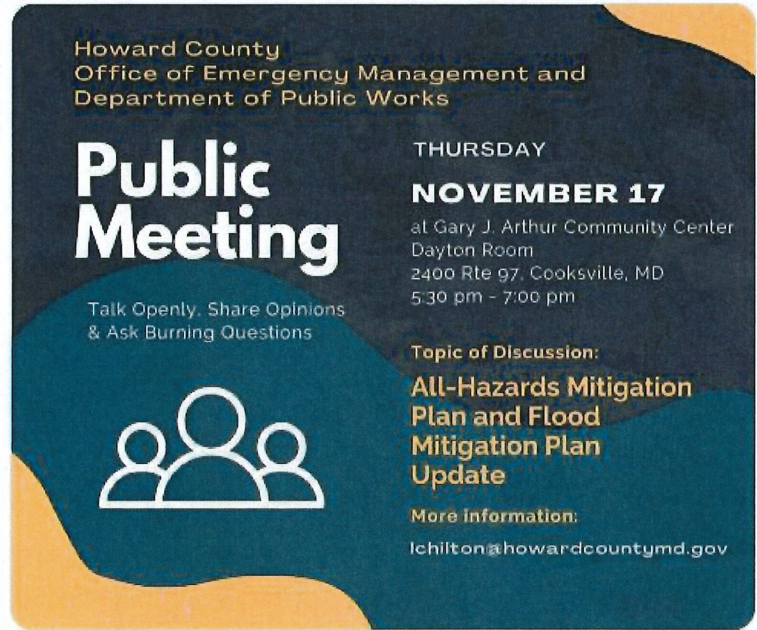
Public Meeting #1 Twitter Post

← **HoCoOEM**  
847 Tweets




**HoCoOEM** @HoCoOEM · Nov 3

All are invited on 11/17 to the Gary J. Arthur Community Center in the Dayton room for a public meeting to gather input & discuss the update for the All-Hazards Mitigation & Flood Mitigation Plans. To view the current plan and provide comments, go to [howardcountymd.gov/emergency-mana](http://howardcountymd.gov/emergency-mana)

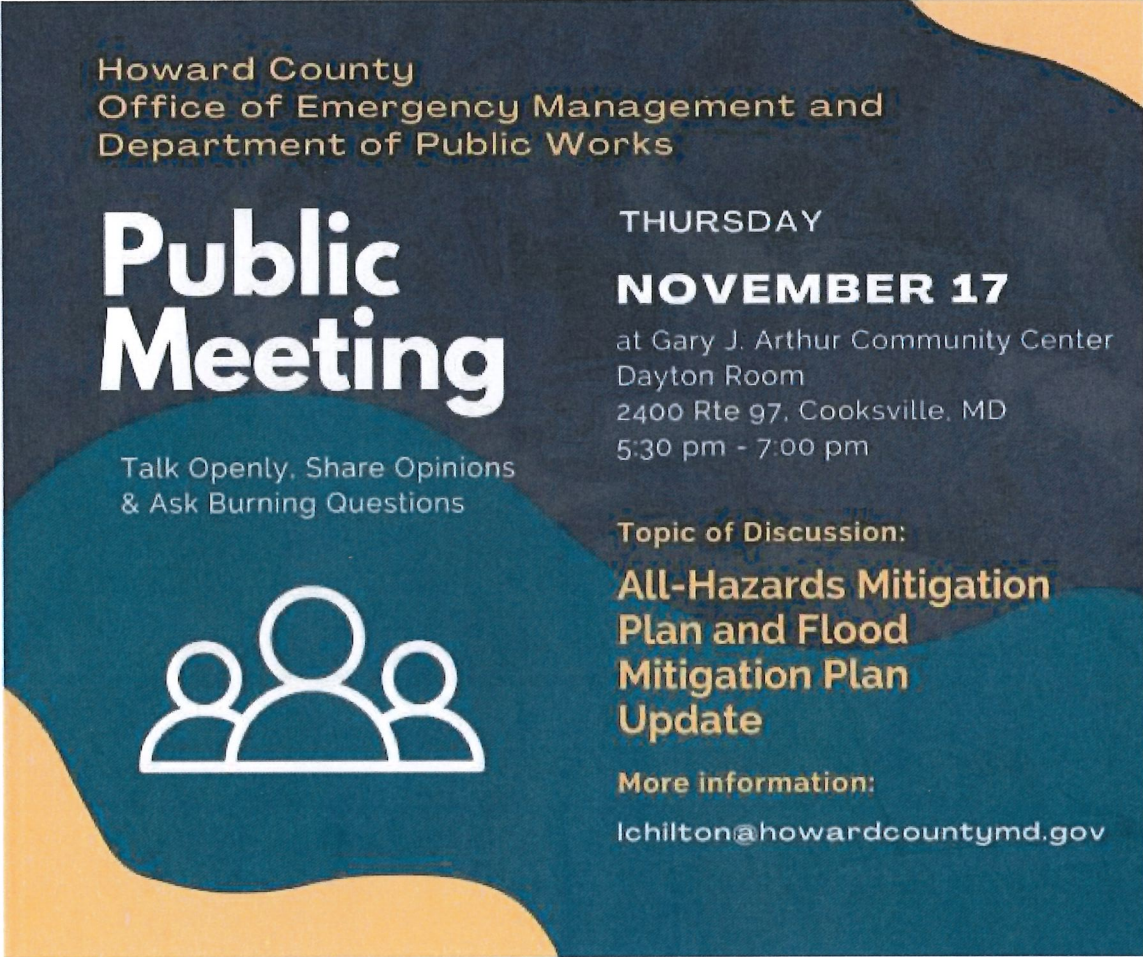


photo/1

Public Meeting #1 Facebook Post

 **Howard County Office of Emergency Management** ✓  
Published by Lauren Chilton · November 3 at 10:00 AM · 🌐

All are invited to join @HoCoOEM and the Department of Public Works Thursday, 11/17, at the Gary J. Arthur Community Center in the Dayton room for a public meeting to gather input & discuss the update for the All-Hazards Mitigation & Flood Mitigation Plans. To view the current plan and provide comments, go to <https://www.howardcountymd.gov/.../2024-2029-howard...>



Howard County  
Office of Emergency Management and  
Department of Public Works

# Public Meeting


THURSDAY  
**NOVEMBER 17**

at Gary J. Arthur Community Center  
Dayton Room  
2400 Rte 97, Cooksville, MD  
5:30 pm - 7:00 pm

Topic of Discussion:  
**All-Hazards Mitigation  
Plan and Flood  
Mitigation Plan  
Update**




More information:  
[lchilton@howardcountymd.gov](mailto:lchilton@howardcountymd.gov)

Talk Openly, Share Opinions  
& Ask Burning Questions



See insights and ads Boost post

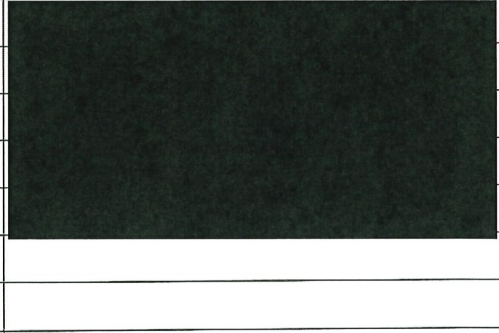
1 Share

 Like  Comment  Share

 Write a comment... 

**Public Meeting #1 Attendance**

**PUBLIC MEETING #1 NATURAL HAZARD MITIGATION PLAN & FLOOD MITIGATION PLAN UPDATE  
DATE: NOVEMBER 17TH, 2022**

Name	Organization (if none, write "resident")	Please write your email if you would like to join our Local Emergency Planning Committee email list.
Michael Tennison	CHHS	
Lauren Chilton	OEM	
Ali Abbasi	RIVUS	
Mike Hinson	OEM	
Mark Richmond	DPW-SWM	

DRAFT



## Public Meeting #1 Agenda



### HOWARD COUNTY OFFICE OF EMERGENCY MANAGEMENT

*Director*  
Mike Hinson

*County Executive*  
Calvin Ball

#### Howard County 2024-2029 Hazard Mitigation and Flood Mitigation Plan Update

#### Public Meeting #1 Agenda

Date: November 17, 2022

Time: 5:30-7:00 PM

- 1) Introductions
  - a) Howard County Office of Emergency Management
  - b) Department of Public Works-Stormwater Management Division
- 2) Natural Hazard Mitigation Plan and Flood Mitigation Plan Presentation
- 3) Frequently Flooded Roads Map Discussion
- 4) Project Schedule
- 5) How to Review the Plans and Provide Feedback
- 6) Open Discussion
- 7) Closing Remarks

Thank you so much for attending our first public meeting to gather input for the Natural Hazard Mitigation Plan and Flood Mitigation Plan. We hope you enjoy today's presentation! Please find some helpful information below.

Link to review plans and provide feedback:

<https://www.howardcountymd.gov/emergency-management/2024-2029-howard-county-hazard-mitigation-plan-update>

Link to take the Community Hazard Survey:

<https://www.surveymonkey.com/r/F8GXQY9>

#### Contacts

For the Natural Hazard Mitigation Plan, please contact Lauren Chilton at:

- [Ichilton@howardcountymd.gov](mailto:Ichilton@howardcountymd.gov)
- 410-313-0713

For the Flood Mitigation Plan, please contact Mark Richmond at:

- [msrichmond@howardcountymd.gov](mailto:msrichmond@howardcountymd.gov)
- 410-313-6444

## Public Meeting #2

March 22, 2023: 4:00pm-5:00pm

Harriet Tubman Cultural Center, 8045 Harriet Tubman Lane, Columbia, MD



Lauren Chilton of the Howard County Office of Emergency Management (OEM), with assistance from Mark Richmond and Christine Lowe, Howard County Department of Public Works, Stormwater Management Division (SWMD), led the second hazard mitigation public meeting on March 22, 2023. Five residents attended the meeting.

OEM's presentation included elements from the first public meeting and the Joint Steering Committee meetings, as well as original content and activities. After introductions, OEM provided an overview of hazard mitigation, including the planning process for the Natural Hazard Mitigation Plan, funding mechanisms, the relevant County plans and annexes, and the specific goals of hazard mitigation. Next, OEM discussed the incorporation of the County's now completed 2023 Hazard Identification and Risk Assessment (HIRA), which identifies the natural and human-caused hazards in the County and quantifies the level of risk they pose.

OEM explained the role of mitigation action items in the Natural Hazard Mitigation Plan and the Flood Mitigation Plan, as well as how the items are updated and prioritized by the subject matter experts on the Joint Steering Committee. After summarizing the big changes that occurred during this NHMP update, including a discussion of emerging hazard trends, the new HIRA, and updates to the action

items, OEM concluded with a timeline for the remainder of the project and described how the public can submit feedback regarding the current draft of the updated NHMP.

The presentation included three posters for the public participants to view:

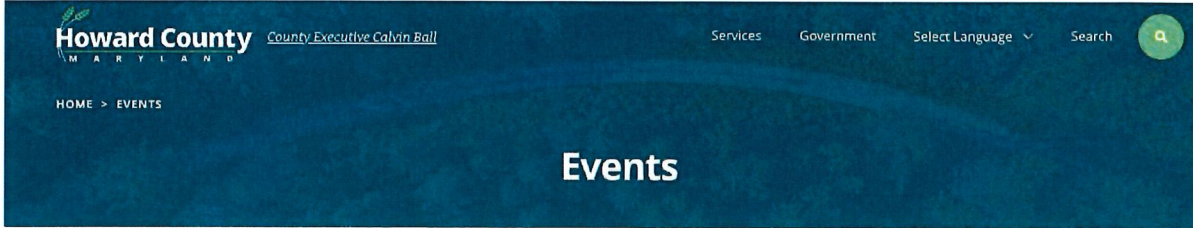
- Map of Howard County Critical Facilities and 100-year floodplain
- Map of Roads Subject to Frequent Flooding
- Map of Flood Hazard Areas Overlapping with Equity Emphasis Area Index Scores

Additionally, public participants were encouraged to fill out surveys regarding personal hazard preparedness and subjective hazard risk perception.

The last phase of the meeting involved a lengthy discussion with the public participants about a wide range of their hazard mitigation topics of interest, including:

- The calculation of future trends (a subcomponent of “likelihood” in the equation Risk = Likelihood x Consequence) in the hazard risk assessments, and the incorporation of aging power grid infrastructure in the risk assessments;
- The capability assessment section of the plan, including the funds, resources, ordinances, and other plans from across the County government that can be leveraged for hazard mitigation;
- The capacity of the stormwater system to handle increasing rain loads;
- The percent of residents in flood hazard areas with flood insurance;
- County programs to maintain optimal tree canopy for processing carbon dioxide;
- FEMA’s National Risk Index and its Community Resilience scoring system; and
- The different hazard preparedness needs of different age groups.

Public Meeting #2 Events Page Screenshot (with zoom in)



Search Enter keyword to search for events SEARCH

Filter By: 3 Results for: CLEAR ALL Popularity Asc

Department/Office

Date 03/20/2023 To 03/30/2023

SHOW RESULTS

<b>22</b> MAR 4:00 PM 2nd Public Meeting: Natural Hazard Mitigation Plan and Flood Mitigation Plan Update	<b>23</b> MAR 11:00 AM Spring Doormat DIY	<b>29</b> MAR 12:00 PM Virtual Public Meeting: Natural Hazard Mitigation Plan and Flood Mitigation Plan Update
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## Public Meeting #2 Press Release



Office of Public Information  
3430 Courthouse Drive  
Ellicott City, Maryland, 21043

410-313-2022 / FAX 410-313-3390 / [www.howardcountymd.gov](http://www.howardcountymd.gov)

Mark Miller, Administrator  
[msmiller@howardcountymd.gov](mailto:msmiller@howardcountymd.gov)

March 6, 2023

### Media Contacts:

Mark Miller, Administrator, Office of Public Information, 410-313-2022  
Lauren Chilton, Office of Emergency Management, 410-313-6030 (All-Hazards)  
Mark S. Richmond, Stormwater Management Division, 410-313-6413 (Flood)

## Howard County's Office of Emergency Management to Host Public Meetings to Review Natural Hazard Mitigation Plan and Flood Mitigation Plan

ELLICOTT CITY, MD – This March, Howard County's Office of Emergency Management (OEM) will hold two public meetings to gather public input and discuss the County's [Natural Hazard Mitigation Plan and Flood Mitigation Plan](#). The first meeting will take place in-person on Wednesday, March 22<sup>nd</sup> from 4:00 p.m. to 5:00 p.m. in the Frances Hackley Multipurpose Room at the [Harriet Tubman Cultural Center](#) in Columbia. The second meeting will take place virtually on Wednesday, March 29<sup>th</sup> from noon to 1:00 p.m. To register to participate in March 29<sup>th</sup>'s virtual meeting, click [HERE](#).

The County's Natural Hazard Mitigation Plan and Flood Mitigation Plan define goals and actions that can be taken to mitigate impacts from a variety of hazards, including flooding, within the county. The County is required to update these plans every five years.

A brief presentation will be presented at the start of each meeting by staff members from OEM and the County's Department of Public Works (DPW), who will remain on hand to answer any questions and gather public comments. Exhibit boards and activities will also be available at the in-person meeting on the 22<sup>nd</sup>. Meeting summaries will be posted on OEM's "2024-2029 Howard County Hazard Mitigation Plan Update" [website](#) following the meetings.

Those unable to attend either meeting who would like to view the information and/or have questions regarding the Natural Hazard Mitigation Plan, should contact Ms. Lauren Chilton with OEM at 410-313-6030 or email [emergencymanagement@howardcountymd.gov](mailto:emergencymanagement@howardcountymd.gov). For information and/or questions regarding the Flood Mitigation Plan, please contact Mr. Mark S. Richmond with DPW's Stormwater Management Division at 410-313-6413 or email [stormwater@howardcountymd.gov](mailto:stormwater@howardcountymd.gov).

-- more --

Page 2  
March 6, 2023

## Howard County's Office of Emergency Management to Host Public Meetings to Review Natural Hazard Mitigation Plan and Flood Mitigation Plan *(continued)*

An interpreter for people who are deaf or hard of hearing will be available if requested seven working days prior to the meeting. Please call DPW at 410-313-3440 (voice) or use Relay at 7-1-1, between 8:00 a.m. and 5:00 p.m., Monday through Friday.

For questions or more information about these meetings, contact Ms. Lauren Chilton with OEM at 410-313-6030 or email [emergencymanagement@howardcountymd.gov](mailto:emergencymanagement@howardcountymd.gov).

###

Public Meeting #2 Flyer



**HOWARD COUNTY**  
OFFICE OF EMERGENCY MANAGEMENT



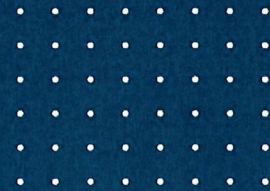
**Calvin Ball**  
County Executive



# REVIEW OF HOWARD COUNTY HAZARD MITIGATION PLANS

WEDNESDAY, MARCH 22ND @ 4PM

Frances Hackley Multipurpose Room at the  
Harriet Tubman Cultural Center  
8045 Harriet Tubman Lane in Columbia, MD



## JOIN US!

To discuss the County's Natural Hazard Mitigation Plan and Flood Mitigation Plan. These plans define goals and actions that can be taken to mitigate impacts from a variety of hazards, including flooding, within the County.

Members of both OEM and the Department of Public Works (DPW) will be on hand to explain both plans, answer any questions, and gather public comments.

## CONTACT US



410-313-6030



@HoCoOEM



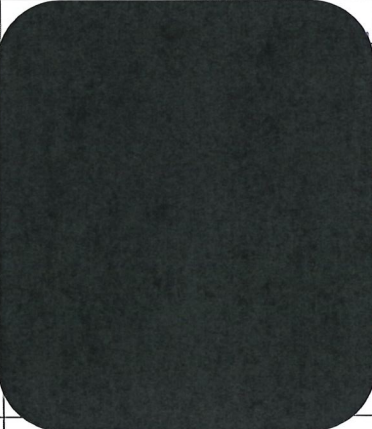
@HoCoOEM

*For questions or more information about the meeting, contact Ms. Lauren Chilton, OEM, at 410-313-6030 or email*

*[emergencymanagement@howardcountymd.gov](mailto:emergencymanagement@howardcountymd.gov)*

**Public Meeting #2 Attendance**

HOWARD COUNTY NATURAL HAZARD MITIGATION PLAN & FLOOD MITIGATION PLAN PUBLIC MEETING #2  
 DATE: MARCH 22, 2023

Name	Organization (if none, "resident")	Please write your email if you would like to join our Local Emergency Planning Committee email list.
Diane Cooper	resident	
Paul Kwiatkowski	RESIDENT	
Christine Lowe	HOCO-DAW-SWMD	
Card Freeman	resident	
CLAIRE KWIAWKOWSKI	KCI	
BOB FRANCES	Ho. Co. D.I.L.P	
Lauren Chilton	Ho Co OEM	
Michael Temison	Univ of MD Center for Health + Homeland Security	
Mark Richard	Ho Co - DAW - SWMD	

## Public Meeting #2 Agenda



### HOWARD COUNTY OFFICE OF EMERGENCY MANAGEMENT

*Director*  
Mike Hinson

*County Executive*  
Calvin Ball

#### Howard County 2024-2029 Hazard Mitigation and Flood Mitigation Plan Update

**Public Meeting #2**  
**Agenda**  
**Date: March 22, 2022**  
**Time: 4:00 PM-5:00 PM**

- 1) Introductions
  - a) Howard County Office of Emergency Management
  - b) Department of Public Works-Stormwater Management Division
- 2) Natural Hazard Mitigation Plan and Flood Mitigation Plan Presentation
  - a) Purpose and Background
  - b) Plan Contents
  - c) Risk Analysis Results
  - d) Action Items
  - e) Big Changes
  - f) Next Steps
  - g) Open Discussion
  - h) How to Provide Feedback
- 3) Room Displays & Activities
  - a) Attendees are free to walk around and examine the four display tables, participate in related activities, or ask additional questions. Attendees are free to leave at any time.
  - b) Tables
    - i) Table 1: Learn if your home/property is in a flood zone.
    - ii) Table 2: Multiple maps will be displayed, and attendees are invited to mark areas they have noticed are more hazardous, such as frequently flooded roads.
    - iii) Table 3: Look at the list of natural hazards in Howard County, rank them from highest risk to lowest risk, and then compare to Howard County's Hazard Identification and Risk Assessment rankings.
    - iv) Table 4: Fill out a quick survey on preparedness for natural hazards.

Thank you so much for attending our second public meeting to gather input for the Natural Hazard Mitigation Plan and Flood Mitigation Plan. Please find some helpful information below.

**Link to review plans and provide feedback:**

<https://www.howardcountymd.gov/emergency-management/2024-2029-howard-county-hazard-mitigation-plan-update>

**Contacts**

For the **Natural Hazard Mitigation Plan**, please contact Lauren Chilton at:

- [lichilton@howardcountymd.gov](mailto:lichilton@howardcountymd.gov)
- 410-313-0713

For the **Flood Mitigation Plan**, please contact Mark Richmond at:

- [msrichmond@howardcountymd.gov](mailto:msrichmond@howardcountymd.gov)
- 410-313-6444



# Hazard Risk Ranking Activity

Starting with the highest risk (1), please rank the following hazards from highest risk to lowest risk.

Space Weather

Lightning

Wildfire

Extreme Temperature

Pest Infestation/Zoonotic Infection

Flood

Earthquake

Tornado

Drought

Hurricane/Tropical Cyclone

Severe Winter Weather



## Natural Hazard Mitigation Plan Survey

The Howard County Office of Emergency Management (OEM) invites you to participate in a survey to gather public feedback for the 5-year update of our Natural Hazard Mitigation Plan. To view the current plan and feedback form, please go to this link: <https://www.howardcountymd.gov/emergency-management/2024-2029-howard-county-hazard-mitigation-plan-update>

Your feedback from this survey will be incorporated into the updated plan which will be in effect from January 2024-2029. A rough draft was posted to the the OEM website in February of 2023 for public comment, and this period ends on April 7, 2023.

To take this survey online, please go to the link or use the QR Code:  
<https://www.surveymonkey.com/r/XQWW3VR>



What natural hazards are you most concerned could impact you or your home? Please check all that apply.

- Floods
- Tornadoes
- Fire
- Snow/Ice
- Earthquake
- Other:

Do you feel prepared for the hazards/threats you checked? Please explain.

- Yes
- No

Tell us something that would improve your ability to recover from a natural disaster, for example, a flood?

In the context of being prepared for natural disasters and recovering from them, what needs in your community do you see that are not being met? Please explain.

Does your home have any of the following for emergencies?

- Emergency Kit or "Go Bag"
- Evacuation Plan
- An Alternate Source of Power

## Public Meeting #3 (virtual)

March 29, 2023: 12:00pm-1:00pm

Howard County WebEx Virtual Meeting Room

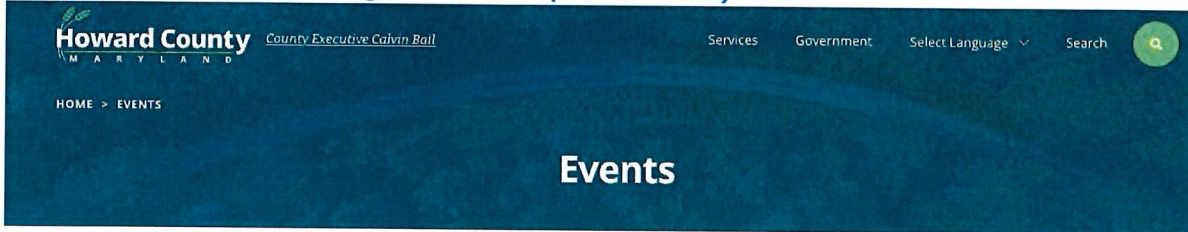


Lauren Chilton of the Howard County Office of Emergency Management (OEM), with assistance from Mark Richmond and Christine Lowe, Howard County Department of Public Works, Stormwater Management Division (SWMD), led the third hazard mitigation public meeting on March 27, 2023. Ten residents attended the meeting.

For the first phase of the meeting, OEM gave the same presentation as in the second public meeting. The intent for the presented material was to have an in-person public meeting as well as a virtual public meeting in order to reach the broadest range of residents. See above, in the Public Meeting #2 section, for a summary of the presentation. After wrapping up the presentation with information about how the public can provide comments on the current draft of the NHMP update, OEM opened the meeting for public questions. The questions and ensuing discussion focused on the following topics:

- The difficulty of mitigating certain low-probability, high-consequence space weather hazards, such as a nearby gamma-ray burst;
- The Howard County frequently flooded roads map;
- The progress of several long-term, multi-phase flood mitigation action items; and
- The prospect of a color-coded weather alert system.

Public Meeting #3 Events Page Screenshot (with zoom in)



Search Enter keyword to search for events SEARCH

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Department/Office

Date

03/20/2023 To 03/30/2023

SHOW RESULTS

22 MAR

4:00 PM

2nd Public Meeting: Natural Hazard Mitigation Plan and Flood Mitigation Plan Update

23 MAR

11:00 AM

Spring Doormat DIY

29 MAR

12:00 PM

Virtual Public Meeting: Natural Hazard Mitigation Plan and Flood Mitigation Plan Update

29 MAR

12:00 PM

Virtual Public Meeting: Natural Hazard Mitigation Plan and Flood Mitigation Plan Update



March 6, 2023

**Media Contacts:**

Mark Miller, Administrator, Office of Public Information, 410-313-2022  
Lauren Chilton, Office of Emergency Management, 410-313-6030 (All-Hazards)  
Mark S. Richmond, Stormwater Management Division, 410-313-6413 (Flood)

## Howard County's Office of Emergency Management to Host Public Meetings to Review Natural Hazard Mitigation Plan and Flood Mitigation Plan

ELLCOTT CITY, MD – This March, Howard County's Office of Emergency Management (OEM) will hold two public meetings to gather public input and discuss the County's [Natural Hazard Mitigation Plan and Flood Mitigation Plan](#). The first meeting will take place in-person on Wednesday, March 22<sup>nd</sup> from 4:00 p.m. to 5:00 p.m. in the Frances Hackley Multipurpose Room at the [Harriet Tubman Cultural Center](#) in Columbia. The second meeting will take place virtually on Wednesday, March 29<sup>th</sup> from noon to 1:00 p.m. To register to participate in March 29<sup>th</sup>'s virtual meeting, click [HERE](#).

The County's Natural Hazard Mitigation Plan and Flood Mitigation Plan define goals and actions that can be taken to mitigate impacts from a variety of hazards, including flooding, within the county. The County is required to update these plans every five years.

A brief presentation will be presented at the start of each meeting by staff members from OEM and the County's Department of Public Works (DPW), who will remain on hand to answer any questions and gather public comments. Exhibit boards and activities will also be available at the in-person meeting on the 22<sup>nd</sup>. Meeting summaries will be posted on OEM's "2024-2029 Howard County Hazard Mitigation Plan Update" [website](#) following the meetings.

Those unable to attend either meeting who would like to view the information and/or have questions regarding the Natural Hazard Mitigation Plan, should contact Ms. Lauren Chilton with OEM at 410-313-6030 or email [emergencymanagement@howardcountymd.gov](mailto:emergencymanagement@howardcountymd.gov). For information and/or questions regarding the Flood Mitigation Plan, please contact Mr. Mark S. Richmond with DPW's Stormwater Management Division at 410-313-6413 or email [stormwater@howardcountymd.gov](mailto:stormwater@howardcountymd.gov).

– more –

Page 2  
March 6, 2023

## Howard County's Office of Emergency Management to Host Public Meetings to Review Natural Hazard Mitigation Plan and Flood Mitigation Plan *(continued)*

An interpreter for people who are deaf or hard of hearing will be available if requested seven working days prior to the meeting. Please call DPW at 410-313-3440 (voice) or use Relay at 7-1-1, between 8:00 a.m. and 5:00 p.m., Monday through Friday.

For questions or more information about these meetings, contact Ms. Lauren Chilton with OEM at 410-313-6030 or email [emergencymanagement@howardcountymd.gov](mailto:emergencymanagement@howardcountymd.gov).

###

Public Meeting #3 Flyer



**HOWARD COUNTY**  
OFFICE OF EMERGENCY MANAGEMENT



**Calvin Ball**  
County Executive



# VIRTUAL MEETING TO REVIEW HOWARD COUNTY HAZARD MITIGATION PLANS

WEDNESDAY, MARCH 29TH @ 12PM

Virtual Public Meeting

*[Sign up here today!](#)*



## JOIN US!

We will be virtually discussing the County's Natural Hazard Mitigation Plan and Flood Mitigation Plan. These plans define goals and actions that can be taken to mitigate impacts from a variety of hazards, including flooding, within the County.

Members of both OEM and the Department of Public Works (DPW) will be online to explain both plans, answer any questions, and gather public comments virtually.

## CONTACT US



410-313-6030



@HoCoOEM



@HoCoOEM

*For questions or  
more information  
about the meeting,  
contact*

*Ms. Lauren Chilton,  
OEM, at 410-313-6030  
or email*

*[emergencymanagement@howardcountymd.gov](mailto:emergencymanagement@howardcountymd.gov)*

Register Virtually *[HERE!](#)*

**Public Meeting #3 Attendance**

**Participants**

<b>Name</b>	<b>Join/Leave</b>
Lauren Chilton	11:50 / 12:49
Michael Tennison	11:51 / 12:49
John Seefried	11:57 / 12:40
Mark Richmond	11:58 / 12:49
Gayle Killen - Historic ...	11:59 / 12:49
Christine Lowe	11:59 / 12:49
Ken Conca	12:00 / 12:40
Joel	12:07 / 12:49
Winnie Carpenter	12:09 / 12:44
sam dove	12:11 / 12:14
elizabeth krahel	12:12 / 12:33
Hannah Robinson	12:16 / 12:49
Paul Kwiatkowski	12:24 / 12:40

## Public Meeting #3 Agenda



### HOWARD COUNTY OFFICE OF EMERGENCY MANAGEMENT

*Director*  
Mike Hinson

*County Executive*  
Calvin Ball

#### Howard County 2024-2029 Hazard Mitigation and Flood Mitigation Plan Update

#### Public Meeting #3 Agenda

Date: March 29, 2022

Time: 12:00 PM-1:00 PM

- 1) Introductions
  - a) Howard County Office of Emergency Management
  - b) Department of Public Works-Stormwater Management Division
- 2) Natural Hazard Mitigation Plan and Flood Mitigation Plan Presentation
  - a) Purpose and Background
  - b) Plan Contents
  - c) Risk Analysis Results
  - d) Action Items
  - e) Big Changes
  - f) Next Steps
  - g) Open Discussion
  - h) How to Provide Feedback: Website and Survey

Thank you so much for attending our third public meeting to gather input for the Natural Hazard Mitigation Plan and Flood Mitigation Plan. Please find some helpful information below.

#### Link to review plans and provide feedback:

<https://www.howardcountymd.gov/emergency-management/2024-2029-howard-county-hazard-mitigation-plan-update>

#### Contacts

For the **Natural Hazard Mitigation Plan**, please contact Lauren Chilton at:

- [lichilton@howardcountymd.gov](mailto:lichilton@howardcountymd.gov)
- 410-313-0713

For the **Flood Mitigation Plan**, please contact Mark Richmond at:

- [msrichmond@howardcountymd.gov](mailto:msrichmond@howardcountymd.gov)
- 410-313-6444



## Invitation to Neighboring Jurisdictions to Review the NHMP

Several neighboring jurisdictions' OEM offices and the Baltimore Metropolitan Council were invited to review the Plan on March 22, 2023. The email below was sent to the following jurisdictions (emails blacked out for security and security):

- City of Annapolis
- Anne Arundel County
- City of Baltimore
- Baltimore County
- Carroll County

Invitation to Review: Howard County Natural Hazard Mitigation Plan and Flood Mitigation Plan 2024-2029

CL Chilton, Lauren <lchilton@howardcountymd.gov> Wednesday, March 22, 2023 at 1:21 PM

[Redacted]


Hello regional partners,

Howard County OEM recently posted the first draft of our Natural Hazard Mitigation Plan Update as well as our Flood Mitigation Plan Update for 2024-2029. We would love to get some feedback from other OEMs in the region as well as the BMC if you have the time. Our public comment period ends on April 7<sup>th</sup> at 5 PM.

You can access the documents on [this page](#). There are also links here that will take you to our feedback form!

Please let me know if you have any questions or want to chat about the plans!

Thank you,



**Lauren Chilton, MIA**  
She/Her/Hers  
*Emergency Management Specialist II*  
Howard County Office of Emergency Management  
**Phone: 410-313-0713**

# Appendix E: Joint Steering Committee Detailed List & Invitation

Affiliation	Name	Title
Baltimore County Office of Emergency Management	David Bycoffe	Director
Columbia Association	Nick Mooneyhan	Open Space Operations Manager
Columbia Association	Monica McMellon-Ajayi	Director of Human Resources, Equity, and Inclusion
Constellation Home (formerly known as BGE)	Marche Taylor Templeton	External Affairs Manager
Department of Community Resources & Services	Jackie Scott	Director
Department of Fire & Rescue Services—Office of Emergency Management	Michael Hinson	Director
Department of Fire & Rescue Services—Office of Emergency Management	Maria Bernadzikowski	Deputy Director (now Assistant Chief Administrative Officer)
Department of Fire & Rescue Services—Office of Emergency Management	Lauren Chilton	Emergency Management Specialist II
Department of Fire & Rescue Services—Operations Command	Gordon Wallace	Deputy Chief
Department of Fire & Rescue Services—Special Operations	Stephen Hardesty	Battalion Chief
Department of Inspections, Licenses, & Permits	Bob Frances	Director
Department of Inspections, Licenses, & Permits—Operations Division	Bob Firmani	Division Chief
Department of Inspections, Licenses, & Permits—Plans Review Division	Don Mock	Division Chief
Department of Planning & Zoning—Comprehensive and Community Planning Division	Kristin O'Connor	Division Chief
Department of Planning & Zoning—Resource Conservation Division	Beth Burgess	Division Chief

Department of Public Works	John Seefried	Acting Director ((Assistant to the Director)
Department of Public Works: Bureau of Engineering	Kris Singleton	Engineering Specialist III
Department of Public Works: Bureau of Environmental Services	Mark DeLuca	Bureau Chief
Department of Public Works: Bureau of Environmental Services--Stormwater Management Division	Mark Richmond	Division Chief
Department of Public Works: Bureau of Environmental Services—Stormwater Management Division	Brian Cleary	Engineering Specialist III
Department of Public Works: Bureau of Environmental Services--Stormwater Management Division	Christine Lowe	Engineering Specialist III
Department of Public Works: Bureau of Facilities	Sharon Walsh	Bureau Chief
Department of Public Works: Bureau of Facilities	Kenn Hamm	Assistant to the Chief
Department of Public Works: Bureau of Facilities	Robert Hollenbeck	Deputy Chief
Department of Public Works: Bureau of Highways	Kris Jagarapu	Bureau Chief
Department of Public Works: Bureau of Highways—Traffic Division	Jennifer Woo	Division Chief
Department of Public Works: Bureau of Utilities	Arthur Shapiro	Bureau Chief
Department of Public Works: Bureau of Utilities	Ross Beschner	Deputy Chief
Department of Public Works: Bureau of Engineering—Utility Design Division	Zack Knight	Program Manager
Department of Recreation and Parks- Bureau of Parks	Bryan Moody	Bureau Chief
Department of Technology and Communication Services	Glenn Hansen	Public Safety IT Project Manager
Department of Technology and Communication Services—GIS Information Systems	Rob Slivinsky	Geographical Information Systems Coordinator
Howard County Administration	Brian Shepter	Deputy Chief of Staff
Howard County Administration—Office of Community Sustainability	Lindsay DeMarzo	Planning Supervisor

Howard County Administration—Office of Community Sustainability	Leah Miller	Energy Manager
Howard County Administration—Office of Community Sustainability	Elissa Reineck	Planning Specialist I
Howard County Administration—Office of Human Resources—Risk Management	Matt Zervas	Assistant Risk Manager
Howard County Administration—Office of Human Rights and Equity	Yolanda Sonnier	Administrator
Howard County Administration--Office of Law	Cynthia Peltzman	Principal Attorney
Howard County Administration--Office of Transportation	Bruce Gartner	Administrator
Howard County Community Organizations Active in Disaster	Jim Ehle	Chair (is no longer Chair of COAD)
Howard County Economic Development Authority	Larry Twele	CEO and President
Howard County Economic Development Authority	Christopher Moyer	Business Development and Marketing/Managing Director
Howard EcoWorks	Lori Lilly	Executive Director
Howard County Health Department—Bureau of Infection Control and Public Health Preparedness	Lenora Painter	Bureau Director
Howard County Health Department—Emergency Preparedness Planning & Training	Amy Skaggs	Coordinator
Howard County Police Department—Operational Preparedness and Support Division	Ron Jason Baker	Lieutenant
Howard County Police Department—Operational Preparedness and Support Division	Kelly Tibbs	Sergeant
Howard County Police Department—Operational Preparedness and Support Division	Rocco Sovero	Police Tech Corporal
Howard County Public School System	Alan Moss	Safety & Security Planning Manager
Participating as Howard County Resident/Maryland Department of Environment—Waterway Permits	William Seiger	Howard County Resident
University of Maryland Center for Health and Homeland Security	Michael Tennison	Senior Law and Policy Analyst and Consultant to Howard County OEM

The above members of the JSC received an email invitation to participate on August 9, 2022, **including the members from utility companies, private businesses, and non-profits**. Email addresses are omitted for security and privacy purposes. The following departments, businesses, and non-profits received an invitation:

- Baltimore Gas and Electric
- Howard County Government
  - Administration
  - Department of Community Resources and Services
  - Department of Fire and Rescue Services
  - Department of Inspections, Licenses, and Permits
  - Department of Planning and Zoning
  - Department of Public Works
  - Department of Recreation and Parks
  - Department of Technology and Communication Services
  - Howard County Police Department
  - Howard County Public School System
- Howard County Health Department
- Non-Profits
  - Columbia Association
  - Community Organizations Active in Disaster
  - Howard County Economic Development Authority
  - Howard EcoWorks
  - University of Maryland Center for Health and Homeland Security (consulting group assisting with the update)



Chilton, Lauren <lchilton@howardcountymd.gov>

Tuesday, August 9, 2022 at 3:17 PM

Hello, everyone!

If you are receiving this email, you previously served as a member of the Joint Steering Committee (JSC) for the County's Hazard Mitigation Plan or you have been identified as a subject matter expert from your agency or department. It's now time to complete the 5-year update (2024-2029), so we are requesting your assistance to serve on the JSC as a subject matter expert. If you are unable to serve on the JSC for any reason, please designate someone in your place with similar expertise. **Please reply to this email to confirm your participation or if you will be designating someone else by COB 8/16/22.**

Our first meeting will be held on Wednesday, September 21st from 1 PM to 3 PM in the Policy Room in the Howard County EOC (Ligon Building) at 3450 Court House Drive. There will be a virtual option to attend as well. A calendar invite will follow this email.

This Plan must get a thorough update every 5 years and be approved by FEMA for Howard County to qualify for Hazard Mitigation grant projects. Our Hazard Mitigation Plans include the Natural Hazards Mitigation Plan (NHMP) and its two annexes, the Human-Caused Hazard Mitigation Plan (HCHMP), and the Historic and Cultural Resources Hazard Mitigation Plan (HCRHMP). We will also be updating the Flood Mitigation Plan (FMP), which is managed by the Department of Public Works-Storm Water Management Division.

These Plans include information about our County to include demographics, hazard statistics, trends, and topography. Most importantly, they list our most threatening hazards and detail mitigation actions that will be taken to address the potential impacts of these hazards. These plans are then used for that five-year period to keep track of our progress for each action.

This process will include a few meetings of the JSC. You will receive an invitation to each meeting at least two weeks in advance. The agenda or reading materials will also be sent to you at least two weeks in advance. You will also be receiving sections of the Plan for feedback throughout the process depending on your area and expertise.

I will be your point of contact throughout this process, and I will be assisted by Michael Tennison, who is also cc'ed on this email.

We look forward to working with you,



Lauren Chilton, MIA

DRAFT

# Appendix F: Local Mitigation Plan Review Tool

The Local Mitigation Plan Review Tool (PRT) demonstrates how the local mitigation plan meets the regulation in 44 CFR § 201.6 and offers states and FEMA Mitigation Planners an opportunity to provide feedback to the local governments, including special districts.

1. The Multi-Jurisdictional Summary Sheet is a worksheet that is used to document how each jurisdiction met the requirements of the plan elements (Planning Process; Risk Assessment; Mitigation Strategy; Plan Maintenance; Plan Update; and Plan Adoption).
2. The Plan Review Checklist summarizes FEMA’s evaluation of whether the plan has addressed all requirements.

Plan Information	
Jurisdiction(s)	Howard County, Maryland
Title of Plan	2024-2029 Howard County Natural Hazard Mitigation Plan Update
New Plan or Update	Update
Single- or Multi-Jurisdiction	Single-jurisdiction
Date of Plan	2023
Local Point of Contact	
Title	Mike Hinson Director
Agency	Office of Emergency Management
Address	Emergency Management 3450 Courthouse Drive Ellicott City, MD 21043
Phone Number	410-313-5911
Email	MHinson@howardcountymd.gov

Additional Point of Contact	
<b>Title</b>	Callie Gorgol Deputy Director
<b>Agency</b>	Office of Emergency Management
<b>Address</b>	Emergency Management 3450 Courthouse Drive Ellicott City, MD 21043
<b>Phone Number</b>	410-313-0748
<b>Email</b>	cgorgol@howardcountymd.gov

Review Information	
<b>State Review</b>	
<b>State Reviewer(s) and Title</b>	Aliyah Russell – Hazard Mitigation Project Officer Marcia Barben – Hazard Mitigation Project Officer Bridget Cantwell – Hazard Mitigation Contractor Crystal Zhao – Hazard Mitigation Project Officer Nevin Stambaugh – Hazard Mitigation Project Officer
<b>State Review Date</b>	5/11/2023
<b>FEMA Review</b>	
<b>FEMA Reviewer(s) and Title</b>	Joshua Norris, Hazard Mitigation Planner, MD FIT
<b>Date Received in FEMA Region</b>	Submission #1: 5/30/2023
<b>Plan Not Approved</b>	Submission #1: 7/7/2023. Revisions required.
<b>Plan Approvable Pending Adoption</b>	Submission #2: 8/16/2023. Required revisions addressed.
<b>Plan Approved</b>	



# Plan Review Checklist

## Element A: Planning Process

Element A Requirements	Location in Plan (section and/or page number)	Met / Not Met
<b>A1. Does the plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement 44 CFR § 201.6(c)(1))</b>		
A1-a. Does the plan document how the plan was prepared, including the schedule or time frame and activities that made up the plan’s development, as well as who was involved?		
A1-b. Does the plan list the jurisdiction(s) participating in the plan that seek approval, and describe how they participated in the planning process?		
<b>A2. Does the plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development as well as businesses, academia, and other private and non-profit interests to be involved in the planning process? (Requirement 44 CFR § 201.6(b)(2))</b>		
A2-a. Does the plan identify all stakeholders involved or given an opportunity to be involved in the planning process, and how each stakeholder was presented with this opportunity?		
<b>A3. Does the plan document how the public was involved in the planning process during the drafting stage and prior to plan approval? (Requirement 44 CFR § 201.6(b)(1))</b>		
A3-a. Does the plan document how the public was given the opportunity to be involved in the planning process and how their feedback was included in the plan?		
<b>A4. Does the plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement 44 CFR § 201.6(b)(3))</b>		
A4-a. Does the plan document what existing plans, studies, reports and technical information were reviewed for the development of the plan, as well as how they were incorporated into the document?		
<b>ELEMENT A REQUIRED REVISIONS</b>		
Required Revision:		

## Element B: Risk Assessment

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
<b>B1. Does the plan include a description of the type, location, and extent of all natural hazards that can affect the jurisdiction? Does the plan also include information on previous occurrences of hazard events and on the probability of future hazard events? (Requirement 44 CFR § 201.6(c)(2)(i))</b>		
B1-a. Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area?		
B1-b. Does the plan include information on the location of each identified hazard?		
B1-c. Does the plan describe the extent for each identified hazard?		
B1-d. Does the plan include the history of previous hazard events for each identified hazard?		
B1-e. Does the plan include the probability of future events for each identified hazard? Does the plan describe the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature and sea levels), on the type, location and range of anticipated intensities of identified hazards?		
B1-f. For participating jurisdictions in a multi-jurisdictional plan, does the plan describe any hazards that are unique to and/or vary from those affecting the overall planning area?		
<b>B2. Does the plan include a summary of the jurisdiction's vulnerability and the impacts on the community from the identified hazards? Does this summary also address NFIP-insured structures that have been repetitively damaged by floods? (Requirement 44 CFR § 201.6(c)(2)(ii))</b>		
B2-a. Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards?		
B2-b. For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction?		
B2-c. Does the plan address NFIP-insured structures within each jurisdiction that have been repetitively damaged by floods?		

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
<b>ELEMENT B REQUIRED REVISIONS</b>		
Required Revision:		

### Element C: Mitigation Strategy

Element C Requirements	Location in Plan (section and/or page number)	Met / Not Met
<b>C1. Does the plan document each participant’s existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement 44 CFR § 201.6(c)(3))</b>		
C1-a. Does the plan describe how the existing capabilities of each participant are available to support the mitigation strategy? Does this include a discussion of the existing building codes and land use and development ordinances or regulations?		
C1-b. Does the plan describe each participant’s ability to expand and improve the identified capabilities to achieve mitigation?		
<b>C2. Does the plan address each jurisdiction’s participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement 44 CFR § 201.6(c)(3)(ii))</b>		
C2-a. Does the plan contain a narrative description or a table/list of their participation activities?		
<b>C3. Does the plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement 44 CFR § 201.6(c)(3)(i))</b>		
C3-a. Does the plan include goals to reduce the risk from the hazards identified in the plan?		
<b>C4. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement 44 CFR § 201.6(c)(3)(ii))</b>		
C4-a. Does the plan include an analysis of a comprehensive range of actions/projects that each jurisdiction considered to reduce the impacts of hazards identified in the risk assessment?		

Element C Requirements	Location in Plan (section and/or page number)	Met / Not Met
C4-b. Does the plan include one or more action(s) per jurisdiction for each of the hazards as identified within the plan's risk assessment?		
<b>C5. Does the plan contain an action plan that describes how the actions identified will be prioritized (including a cost-benefit review), implemented, and administered by each jurisdiction? (Requirement 44 CFR § 201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))</b>		
C5-a. Does the plan describe the criteria used for prioritizing actions?		
C5-b. Does the plan provide the position, office, department or agency responsible for implementing/administrating the identified mitigation actions, as well as potential funding sources and expected time frame?		
<b>ELEMENT C REQUIRED REVISIONS</b>		
Required Revision:		

### Element D: Plan Maintenance

Element D Requirements	Location in Plan (section and/or page number)	Met / Not Met
<b>D1. Is there discussion of how each community will continue public participation in the plan maintenance process? (Requirement 44 CFR § 201.6(c)(4)(iii))</b>		
D1-a. Does the plan describe how communities will continue to seek future public participation after the plan has been approved?		
<b>D2. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a five-year cycle)? (Requirement 44 CFR § 201.6(c)(4)(i))</b>		
D2-a. Does the plan describe the process that will be followed to track the progress/status of the mitigation actions identified within the Mitigation Strategy, along with when this process will occur and who will be responsible for the process?		

Element D Requirements	Location in Plan (section and/or page number)	Met / Not Met
D2-b. Does the plan describe the process that will be followed to evaluate the plan for effectiveness? This process must identify the criteria that will be used to evaluate the information in the plan, along with when this process will occur and who will be responsible.		
D2-c. Does the plan describe the process that will be followed to update the plan, along with when this process will occur and who will be responsible for the process?		
<b>D3. Does the plan describe a process by which each community will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement 44 CFR § 201.6(c)(4)(ii))</b>		
D3-a. Does the plan describe the process the community will follow to integrate the ideas, information and strategy of the mitigation plan into other planning mechanisms?		
D3-b. Does the plan identify the planning mechanisms for each plan participant into which the ideas, information and strategy from the mitigation plan may be integrated?		
D3-c. For multi-jurisdictional plans, does the plan describe each participant's individual process for integrating information from the mitigation strategy into their identified planning mechanisms?		
<b>ELEMENT D REQUIRED REVISIONS</b>		
Required Revision:		

## Element E: Plan Update

Element E Requirements	Location in Plan (section and/or page number)	Met / Not Met
<b>E1. Was the plan revised to reflect changes in development? (Requirement 44 CFR § 201.6(d)(3))</b>		
E1-a. Does the plan describe the changes in development that have occurred in hazard-prone areas that have increased or decreased each community's vulnerability since the previous plan was approved?		

Element E Requirements	Location in Plan (section and/or page number)	Met / Not Met
<b>E2. Was the plan revised to reflect changes in priorities and progress in local mitigation efforts? (Requirement 44 CFR § 201.6(d)(3))</b>		
E2-a. Does the plan describe how it was revised due to changes in community priorities?		
E2-b. Does the plan include a status update for all mitigation actions identified in the previous mitigation plan?		
E2-c. Does the plan describe how jurisdictions integrated the mitigation plan, when appropriate, into other planning mechanisms?		
<b>ELEMENT E REQUIRED REVISIONS</b>		
Required Revision:		

## Element F: Plan Adoption

Element F Requirements	Location in Plan (section and/or page number)	Met / Not Met
<b>F1. For single-jurisdictional plans, has the governing body of the jurisdiction formally adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))</b>		
F1-a. Does the participant include documentation of adoption?		
<b>F2. For multi-jurisdictional plans, has the governing body of each jurisdiction officially adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))</b>		
F2-a. Did each participant adopt the plan and provide documentation of that adoption?		
<b>ELEMENT F REQUIRED REVISIONS</b>		
Required Revision:		

## Element G: High Hazard Potential Dams (Optional)

HHPD Requirements	Location in Plan (section and/or page number)	Met / Not Met
<b>HHPD1. Did the plan describe the incorporation of existing plans, studies, reports and technical information for HHPDs?</b>		
HHPD1-a. Does the plan describe how the local government worked with local dam owners and/or the state dam safety agency?		
HHPD1-b. Does the plan incorporate information shared by the state and/or local dam owners?		
<b>HHPD2. Did the plan address HHPDs in the risk assessment?</b>		
HHPD2-a. Does the plan describe the risks and vulnerabilities to and from HHPDs?		
HHPD2-b. Does the plan document the limitations and describe how to address deficiencies?		
<b>HHPD3. Did the plan include mitigation goals to reduce long-term vulnerabilities from HHPDs?</b>		
HHPD3-a. Does the plan address how to reduce vulnerabilities to and from HHPDs as part of its own goals or with other long-term strategies?		
HHPD3-b. Does the plan link proposed actions to reducing long-term vulnerabilities that are consistent with its goals?		
<b>HHPD4-a. Did the plan include actions that address HHPDs and prioritize mitigation actions to reduce vulnerabilities from HHPDs?</b>		
HHPD4-a. Does the plan describe specific actions to address HHPDs?		
HHPD4-b. Does the plan describe the criteria used to prioritize actions related to HHPDs?		
HHPD4-c. Does the plan identify the position, office, department or agency responsible for implementing and administering the action to mitigate hazards to or from HHPDs?		
<b>HHPD Required Revisions</b>		
<b>Required Revision:</b>		

## Element H: Additional State Requirements (Optional)

Element H Requirements	Location in Plan (section and/or page number)	Met / Not Met
This space is for the State to include additional requirements		

## Plan Assessment

These comments can be used to help guide your annual/regularly scheduled updates and the next plan update.

### Element A. Planning Process

#### Strengths

- [insert comments]

#### Opportunities for Improvement

- [insert comments]

### Element B. Risk Assessment

#### Strengths

- [insert comments]

#### Opportunities for Improvement

- [insert comments]

### Element C. Mitigation Strategy

#### Strengths

- [insert comments]

#### Opportunities for Improvement

- [insert comments]

### Element D. Plan Maintenance

#### Strengths

- [insert comments]



**Opportunities for Improvement**

- [insert comments]

**Element E. Plan Update**

**Strengths**

- [insert comments]

**Opportunities for Improvement**

- [insert comments]

**Element G. HHPD Requirements (Optional)**

**Strengths**

- [insert comments]

**Opportunities for Improvement**

- [insert comments]

**Element H. Additional State Requirements (Optional)**

**Strengths**

- [insert comments]

**Opportunities for Improvement**

- [insert comments]

# Appendix G: Hazard Definitions

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**100 Year Flood:** A magnitude of flooding event that has a 1% (1/100) annual probability of occurring.

**100 Year Floodplain:** An area that has a 1% (1/100) annual probability of experiencing flooding. This may also be referred to as a **Base Flood**.

**500 Year Flood:** A magnitude of flooding event that has a .2% (1/500) annual probability of occurring.

**500 Year Floodplain:** An area that has a .2% (1/500) annual probability of experiencing flooding.

**Base Flood Elevation:** The elevation of surface water resulting from a flood that has a 1% chance of equaling or exceeding that level in any given year.<sup>172</sup>

**Special Flood Hazard Area:** An area having special flood, mudflow or flood-related erosion hazards and shown on a Flood Hazard Boundary Map (FHBM) or a Flood Insurance Rate Map (FIRM) Zone A, AO, A1-A30, AE, A99, AH, AR, AR/A, AR/AE, AR/AH, AR/AO, AR/A1-A30, V1-V30, VE or V.<sup>173</sup>

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<sup>172</sup> National Flood Insurance Program, Glossary. <https://www.floodsmart.gov/definitions>. Last Accessed Jul 14, 2023

<sup>173</sup> National Flood Insurance Program, Glossary. <https://www.floodsmart.gov/definitions>. Last Accessed Jul 14, 2023



## HOWARD COUNTY OFFICE OF EMERGENCY MANAGEMENT

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*Director*  
*Mike Hinson*

*County Executive*  
*Calvin Ball*

### **MEMORANDUM**

To: Brandee Ganz, Chief Administrative Officer  
From: Michael Hinson, Office of Emergency Management  
Date: September 21, 2023  
Re: Administrative testimony on the Resolution adopting the Natural Hazard Mitigation Plan

Council Resolution No. \_\_\_-2023 adopts the Howard County Natural Hazard Mitigation Plan (the "Plan"). Previous Plans have been adopted by the passage of Council Resolution No. 112-2004, No. 22-2013, and No. 6-2019.

Mitigation is the effort to reduce loss of life and property by lessening the impact of disasters. For mitigation to be effective we need to act now—before the next disaster—to reduce human, environmental, and financial consequences later. Dollars spent today on mitigation projects will significantly reduce the demand for future dollars by decreasing the need for emergency response, recovery, repair, and reconstruction. In fact, according to the National Institute of Building Science as of 2020, mitigation funding can save the nation \$13 in future disaster costs, for every \$1 spent on hazard mitigation. This number was \$6 for every \$1 in 2017. Most importantly, a strong mitigation program will lessen the threat to life safety from natural hazards.

This Plan is a strategic plan that proposes actions to reduce or eliminate long-term risk to people and property from future natural disasters while considering how climate change will exacerbate these disasters. It is the representation of Howard County's commitment to reduce risks from natural hazards and is meant to serve as a guide for decision makers as we commit resources to reducing the effects of natural hazards. Local level hazard mitigation plans also serve as the basis for the State to provide technical assistance and to prioritize project funding. The Plan covers natural hazards across the County that were deemed most likely to occur while considering the threat posed. This list was finalized by the Hazard Identification and Risk Assessment Steering Committee in January 2023, and this list is regularly evolving as the County faces new threats, especially due to climate change.

The last Natural Hazard Mitigation Plan was passed by the Council in 2019. The 2024-2029 Plan update provided Howard County with the opportunity to add more detail, discuss the effects of future development and climate change, examine the impacts of natural hazards on underserved and under-resourced populations, and develop new actions to further strengthen Howard County's resiliency to natural hazards. For the Implementation Plan section, there are a total of 28 ongoing actions that are continuously carried out and 13 actions that are in cue as of the 2024 update. Nine actions from the

previous update were completed with four being completed prior to the 2021 annual review and five being marked as completed after the 2021 annual review. Ten actions have been added to the table for this update. Mitigation actions were also prioritized by the Joint Steering Committee and appear in order from highest priority to lowest priority. The chart listing these actions can be found in the 2024-2029 Natural Hazard Mitigation Plan starting on page 219. We have listed the top five mitigation actions at the conclusion of this written testimony.

As part of the Plan development process, we established a Joint Steering Committee (which also updated the Flood Mitigation Plan), conducted multiple public surveys, held three public meetings, held a public comment period, and had the Plan approved by the Maryland Department of Emergency Management (MDEM), and FEMA. Both MDEM and FEMA reported that the Plan was thorough, strong, and met all requirements. Both agencies have formally approved the Plan pending the Council's adoption of the Plan.

#### Fiscal Impact

The Federal Disaster Mitigation Act of 2000<sup>1</sup> requires that a local government must have a mitigation plan approved to receive Hazard Mitigation Grant Program project grants from the Federal Emergency Management Agency (FEMA). While we are required to have an approved plan every five years to be eligible for funding, *the Plan does not obligate the County to fund any specific hazard mitigation projects*. Accordingly, the Plan has no fiscal impact; instead, the Plan acts as a guide for Howard County mitigation projects, as well as for the spending of mitigation grant funds received.

The County Executive, through his Office of Emergency Management, respectfully requests that the Howard County Council adopt the 2024-2029 Natural Hazard Mitigation Plan.

Please see the top five mitigation actions below:

1. Continue to utilize FEMA's Integrated Public Alert and Warning System (IPAWS) for sudden onset hazards such as tornados, thunderstorms, or flash floods.
2. Perform flood mitigation for Historic Ellicott City, consistent with the Ellicott City Safe and Sound Flood Mitigation Plan, by designing and constructing the North Tunnel, Maryland Avenue Culvert, Pond H-7, Pond H-4, Quaker Mill Pond, Pond NC-3, and Pond T-1, as well as performing other non-capital project efforts consistent with the Safe and Sound Plan.
3. Encourage local businesses and local industry owners to develop a business continuity plan and provide educational materials.
4. Ensure that applicable codes and ordinances, such as building codes, floodplain ordinances, wetland protection, and erosion and sediment control standards are consistently enforced.
5. Continue to update, maintain, and implement existing emergency plans, including but not limited to, recovery, response, and/or emergency operations plans.

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<sup>1</sup> 42 U.S.C § 5165 et seq.