

Meeting Minutes

Title: Frederick County Hazard Mitigation Plan 2021 – HIRA Workshop Location: Virtual, Microsoft Teams

Date: Thursday, October 14, 2021 Time: 10:00 am – 12:00 pm ET

Purpose: Dewberry will provide a status update on the project's progress and HIRA results.

- Attendees:
1. Scott Choquette, *Dewberry*
 2. Jade Payne, *Dewberry*
 3. Noelle Baffa, *Dewberry*
 4. Dano Wilusz, *Dewberry*
 5. Captain Matt Lynch, *Police Department, City of Brunswick*
 6. Joe Birch, *Planning & Zoning, Town of Walkersville*
 7. Dawn Ashbacher, *Sustainability Program Manager, Office of County Executive*
 8. Lewis Godwin, *Chief of Operations Frederick Community College*
 9. Nathan Hupp, *Safety, Security and Emergency Preparedness specialist at The City of Frederick*
 10. Vaughn Ripley, *City of Brunswick*
 11. Zach Gulden, *Town of Emmitsburg*
 12. Andy St. John, *City of Brunswick*
 13. Bruce Carbaugh, *Director of Public Works Middletown MD*
 14. Cathy Willets, *Town Manager, Town of Emmitsburg*
 15. Drew Bowen, *Town Administrator, Town of Middletown*
 16. David Ennis, *Department Head Department Highways and Facilities Maintenance, Frederick County Department of Public Works*
 17. Kimberly G. Brandt, *Director of Livable Frederick and Planning/Design Department*
 18. Mary Domer, *Executive Assistant to Jack Markey, Frederick Emergency Management*
 19. Donald Dorsey, *Sustainability Project Manager/CIP, Office of County Executive, Frederick Co.*
 20. Dennis Dudley, *Director of the Department of Emergency Preparedness*
 21. Kevin Fox, *Training and Emergency Management Coordinator, Mount Saint Mary's University*
 22. Todd Johnson, *Frederick Co. Health Dept Emergency Planner and Strategic Stockpile Coordinator*
 23. Rowela Lascolette, *Hood College, Risk Manager*
 24. Thurmond Maynard, *Director and Chief of Safety at Hood College*
 25. Jack Markey, *Director of Frederick County Emergency Management*
 26. Rohan Brown, *Planner, Dept. of Emergency Preparedness*
 27. Sharon Riddell, *Administrative Aide, Frederick County Emergency Management*
 28. Anthony Rosano, *Deputy Director at Frederick County Emergency Management*
 29. Sean Williams, *Town Manager of Walkersville*
 30. Robin Shusko, *Director of Campus Safety and Emergency Management at Frederick Community College*
 31. Tracy Coleman, *City of Frederick, Department of Public Works*

Meeting Summary

Scott Choquette (Dewberry) and Jade Payne (Dewberry) met with the Frederick County Hazard Mitigation Planning Committee (HMPC) on October 14, 2021 to provide an update on project status and hazard identification and risk assessment (HIRA) results. Jade discussed climate adaptation integration and other new plan additions. Scott presented completed work on the HIRA section. Dano

Wilusz (Dewberry) presented progress on the 2-D Pluvial Flood Modeling and provided a live demonstration. Next steps and upcoming due dates were also discussed. Discussion and presentation topics are grouped below.

Meeting Notes

Project Status Update

- Great participation in survey so far- Dennis
- HIRA section drafted
- Draft plan will be to FEMA by November for review
- Public outreach strategy: Completed project website, online survey, videos, story map
- Virtual workshop for public – 10/21/21
- Over 500 survey responses from stakeholders, public, etc.

Climate Adaptation Integration and other new plan additions

- Climate change projections added to 2021 plan modeled after MA state plan.
 - Climate change and natural hazard taxonomy
 - Changes in precipitation
 - Rising temperatures
 - Extreme weather
 - Non-climate influences hazard
 - Hazard mitigation and climate adaptation strategy
 - Identifying climate change interactions addresses by each action
 - Climate adaptation elements
 - Climate change projections for MD and Region
 - Integration with recs. From the Frederick Climate Emergency Mobilization Work Group
- Social vulnerability analysis (SVI)
 - One of the first HMPs to do this
 - CDC's SVI to measure relative vulnerability of US census tracts
 - Overlaid with hazard areas to create visual for where most vulnerable populations and increases hazard exposure intersect
 - Provides more complete picture of risk
 - SVI will be shown with flood hazard zones, dam inundation, wildland urban interface
 - New FEMA BRIC grant program gives favor to plans that address vulnerable populations
- Future Development
 - Comprehensive planning integration
 - Proposed community facilities
 - Proposed highway additions
 - Community growth areas
 - Overlaid with hazard areas to help ID future risk.

Hazard ID and Risk Assessment

- Purpose: provide factual basis for prioritizing hazards
- Components: Hazard ranking, climate impacts, probability, historical events, vulnerability and loss estimation, potential impacts, state HMP integration, hazard profiles
- 2021 updates: updated hazard ranking, social vulnerability & future dev., pluvial flood model and exposure analysis, climate adaptation, new analyses in each hazard section- HAZUS earthquake, dam inundation mapping, severe weather section, expanded exposure & loss estimation for almost every hazard, new maps based on updated data
- Risk levels ranked by probability & history, vulnerability, maximum threat, warning time, 2016 ranking.
- Data sources: NOAA NCEI Storm Events Database, FEMA Federal Declared Disasters
- 13 major disaster declarations for Frederick County- 9 flooding/ severe storm, 4 winter weather, 2 COVID
 - Hazard Mitigation Assistance available for COVID
- Loss estimation: HAZUS analysis for flood, hurricane wind, and earthquake
 - HAZUS flood: riverine flooding, 10-500-year events, annualized run, buildings
- HIRA Results
 - Winter weather: total of \$615.3K- doesn't include snow removal, etc.; annualized \$24,6K a year in winter weather damages
 - Severe weather: 652 reported events since 1955. \$6.8M in damages, \$252.9K in annualized damages
 - Tornado: 38 tornados since 1950, \$6.2M in damages, \$86.6k annualized (1950-2021)
 - Hurricane winds HAZUS: total loss \$509.5K per year
 - Extreme heat: becoming more frequent, intense and longer; social vulnerability with extreme heat
 - Drought: projected to increase due to climate change; annualized damage- \$1.4M, largest for agriculture/ crop damages
 - Flooding: mapped floodplains and did exposure analysis; annualized damages of \$53.1M (HAZUS), NCEI total reported damage \$1.5M
 - Dam/Levee failure: 21 reported dam failures in Frederick County; \$79.1M in property exposure in dam/levee areas
 - Wildfire: 6-year record period, 119 recorded events in County AMS, 13 year period with 382 total events recorded events in State DNR, 182.1k building footprints exposed to wildfire risk
 - Karst/ Land subsidence: total parcel value exposed \$10.1M, \$208k average building value
 - Earthquake: low probability, high potential damages. HAZUS annualized total losses by census tract- \$187.9K annualized total loss, \$121.6K of those damages to buildings
 - Landslide: \$28.7M total exposure value of real estate

2-D

- Dano Wilusz (Dewberry): Pluvial Modeling
 - Focused on riverine flooding, urban surface flooding (pluvial)
 - Inputs-
 - Topography: 1m DEM
 - Surface roughness- NLCD land use
 - Major conveyance structures- simplified bridges, culverts

- River inflows- USGS regression equations
- Method- 2D HEC-RAS model
- Limitations and applications
 - Incomplete topography
 - Limited storm water mgmt. infrastructure
 - No stream bathymetry
 - Limited validation
- Recommended uses
 - Useful for hazard planning and screening
 - Mapping riparian flooding at streams with no FEMA model
 - Evaluation potential for pluvial flooding
- Provides information the county doesn't have

Next Steps for Risk Analysis

- HIRA annexes
 - Frederick Community College, Mount St. Mary's University, Hood College
 - Annexes will have independent HIRA sections that utilize county-wide risk assessment, but w/ zoomed in focus on campuses
 - Will include human-caused hazards as prioritized by hazard surveys
- Mitigation goals, strategies & objectives
 - Climate adaptation mitigation strategy
- 2016 goals → strategic categories: hazard & climate focused
 - Physical projects
 - Capability & capacity building
 - Public awareness and education
 - Forward-looking policy and planning

Questions & Comments

- Jack Markey: applause for 2-D pluvial modeling. Very useful information, very exciting what has been done with pluvial. State of the art and a great foundation given recent flood events. This pluvial modeling can be incredibly valuable.
 - Scott: May be first in MD and even R3
- Todd Johnson, Health department: purposed to move from goals to strategic categories is it possible for ex. Goal H could end up in more than one of those categories?
 - Scott: could fall under multiple categories
- Jack Markey: sheltering would be tactical strategy rather than strategic category, make sure to get the goals broad
- Robin Shusko: during draft plan and workshop, will we be updating the info we submitted on the templates?
 - Jade: all of questionnaires and templates we've used to update beginning of plan, profile info, capability assessment
- Kevin Fox: Will the colleges and annexes have the pluvial flooding as well?
 - Scott: I think yes, would be important at that scale that it is reviewed.
 - Jack: since there aren't some of the non-public entities might be higher level than some unincorporated areas but would still be valuable

Next Steps

1. Public engagement meeting- 10/21
2. Online hazard mitigation survey closes- 10/22
3. HMPC to review mitigation goals and objectives- October 2021
4. Choose and rank mitigation strategies- Oct/ Nov 2021
5. County draft plan review & workshop- Nov/ Dec 2021
6. Stakeholder draft plan review & public meeting- Nov/Dec 2021