Preserving Historic Buildings

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Ellicott City:
Established 1772
Howard County, Maryland

Figure 1.1: Vicinity Map of the Ellicott City Flood Study Area

Ellicott City Flood Study

Figure 1.1: Project Location Map

http://dnr.maryland.gov/ccs/Pages/md-coastal-zone.aspx
Main Street Front North Side
Back of Main Street
Back of Main Street
South Side
Doesn’t meet current building requirements.
This town was Built:
- Within the Floodplain
- On Steep Slopes
- On Foundation of Granite
A History of Flooding in Ellicott City, MD

1952: Heavy rains brought by the hurricane produced a flash flood in Ellicott City, which washed 21 cars down main street along with household furnishings and store merchandise. Pictured are some of the cars piled up near the depot yard at Main Street and Maryland Avenue. (Frank A. Miller/Baltimore Sun)
Ellicott City July 30th Storm
Ellicott City July 30th Flood

Don Y video published August 3, 2016
https://www.youtube.com/watch?v=T4JMYuiieFc
Ellicott City July 30\textsuperscript{th} Flood

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https://www.youtube.com/watch?v=T4JMYuiieFc
Ellicott City July 30th Flood

Ron Peters security camera video
Ellicott City July 30th Flood Damage

Bobby Barker Ellicott City Flash Flood 2016 video
https://www.youtube.com/watch?v=ktHzzfPKlv8
Ellicott City July 30th Flood Damage

Timber framed buildings and large glass storefronts received a lot of damage to the structures
Ellicott City July 30th Flood Damage

Windows and Door gave way first
Granite and brick buildings had less structural damage
Ellicott City July 30th Flood Damage
Ellicott City September 2011 Lee Storm

TPNmatt video published September 9, 2011
www.youtube.com/watch?v=BKCgqvvv_cU
Extreme Flooding is Worldwide

Charleston, SC

Hitzacker, Germany

York, England

Philadelphia, PA
How do we keep the Water Out?
A woman cleans the window of Plonkers wine bar in York, as the floodwaters rise on the street outside Justin Tallis/AFP
https://www.ibtimes.co.uk/uk-floods-photos-historic-city-york-after-rivers-ouse-foss-burst-their-banks-1535247
Is this legit?
Are these certified?
Do we have anything in the US?
Ellicott City’s current flood proofing efforts are not enough

- Raising HVACs
- Screening Drains
- Closing off Basements
- Safety & Engineering Concerns
Engineered Solutions
Commercial Solutions are not always options for historic districts

http://www.floodcontrolinternational.com/index.php
Door failure occurred throughout town
Appropriate floodproof doors would be a start
What others are doing…

Historic Storefront

With Floodproof Door
2016: After Flood

2017: After Renovation
Damage After Flood

Renovation with Floodproofing
Historically appropriate flood resilient doors are a start
ADA Compliance
We had GREAT Partnerships!

Maryland Department of Housing & Community Development
Helpful Resources from Professionals…
Aerial photography: reconstructing images into a 3D model
Laser Scanning: Capturing 3D data & digital modeling

Direct Dimensions; ElevatedElement
Master Plan Concepts
"Hudson Bend"

Lot D 116 spaces retained (238 Existing)  
(Loss of 122)

* Loss of existing restaurant space
Tangible engineered & certified flood mitigation products are needed…

- Windows
- Doors
- Floodgates
- Buffering of Structures

Individuals are working on site specific projects:
- Rain barrels & rain gardens
- Yard & debris clean-up
- Mitigating where possible
Possibilities?
Thinking of out the box
Thank You

Image and Photo Credits:
Slide 9:  -Frank A. Miller; Baltimore Sun: http://darkroom.baltimoresun.com
    -Dipaola, Baltimore Sun: http://darkroom.baltimoresun.com


Slide 20: -Brian Blanco/Getty Images; Charleston, SC image; October 8, 2016.
    -Sean Gallup/Getty Images; Hitzacker, Germany; April 7, 2006.
    -River Ouse at York; www.inndepent.co.uk/home-news/York-floods-tourists-line-citys-bridges-to-photograph-the-swollen-waters-a6789986.html; December 29, 2015

Slide 21: -Blake Sell/AP Photo; Annapolis MD; Nextcity.org; April 8, 2016
    -Getty Images: http://www.ibtimes.co.uk/; December 9, 2015; Carlisle, England


Masterplan Concepts: PEA, Mahan Rykiel, Arnett Muldrow, Rk&K, Land Studies, SouthCoast Consulting, Preservation Consulting, McCormick Taylor, Army Corp of Engineers
Various Photos: Ken Short, Mark S. Miller, Scott Kramer: Howard County Government, MD