

Ellicott City Watershed Master Plan

Kickoff Meeting

Agenda

May 31st, 7:00 p.m.

Banneker Room, George Howard Building

- Introduction and Welcome – Allan H. Kittleman, County Executive
- Program Overview – Steve Brigham, Public Engagement Associates
- Master Plan Process*
 - Valdis Lazdins, Director, Department of Planning and Zoning
 - Tom McGilloway, Mahan Rykiel Associates
- Key Results, Findings, and Implications of the Hydrology and Hydraulics (H&H) Study*
 - Mark DeLuca, Chief, Bureau of Environmental Services, Department of Public Works
 - Chris Brooks, McCormick Taylor
- Next Steps – Valdis Lazdins, Director, Department of Planning and Zoning

*Presentations will each be followed by a question and answer period.

Stay up to date on the Master Plan process!

Visit www.howardcountymd.gov/ecmp and sign up for our newsletter.



MAHAN RYKIEL
ASSOCIATES INC

McCORMICK
TAYLOR

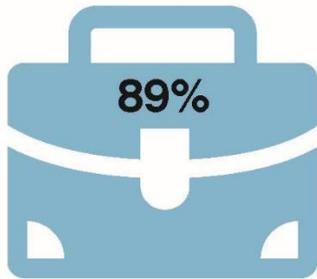
Public
Engagement
associates

clean
HOWARD
Howard County Stormwater Solutions

Ellicott City Watershed Master Plan

Progress to Date

Tremendous progress has been made since the tragic flooding that occurred July 30, 2016, with a large part of that due to the overwhelming efforts made by this community throughout the recovery process:



Businesses have reopened on Main Street



Grant funds distributed to date



Displaced households have returned

The Ellicott City Flood Recovery Community Advisory Group was formed under the guidance of Senator Jim Robey to help shape the County's early recovery efforts. In addition, a Recovery Manager was hired to coordinate the County's immediate recovery operations.

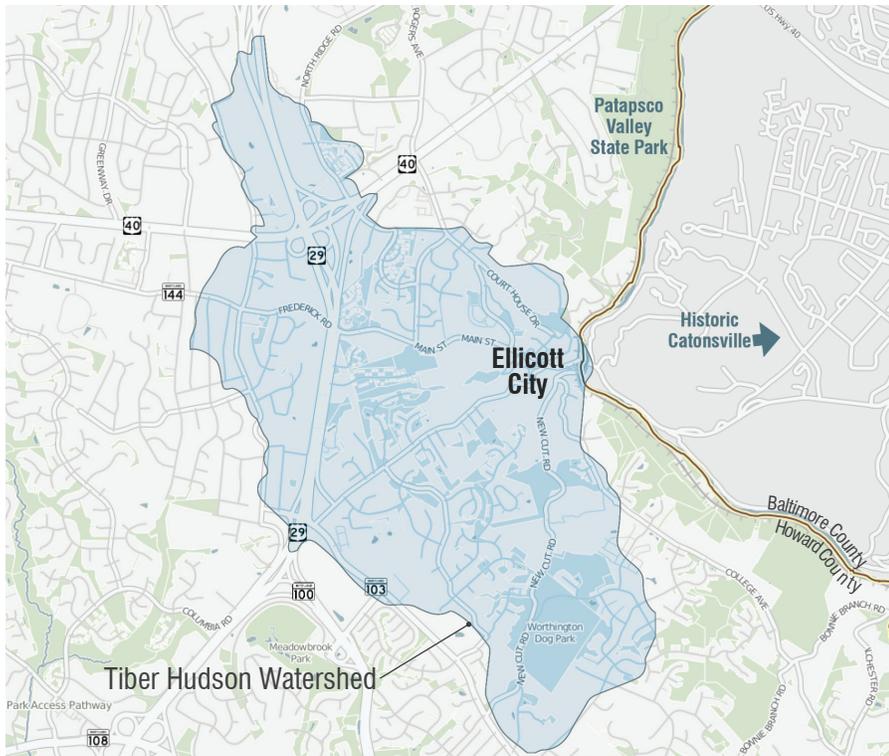
In response to flooding, the County has undertaken approximately \$10.8 million in infrastructure improvement projects, which include some of the following:

Project Description	Status
READY Annual Stream Clean-up: conducted as a result of the 2015 Flood Work Group Report	Complete Fall 2016
Annual Stream Cleaning of Larger Debris: conducted as a result of the 2015 Flood Work Group Report	Complete Fall 2016
Stream Channel Wall Inspections: conducted as a result of the 2015 Flood Work Group Report	Complete
Brew Pub Stream Wall Reconstruction: conducted as a result of the Stream Channel Wall Inspections	Complete

Parking Lot E Repairs	Complete
Repair Erosion above Culvert: recommendation of the 2012 Tiber-Hudson Stream Corridor Assessment- Site 5	Complete
Comprehensive Hydrology and Hydraulic Study	Complete
Stream Channel Wall behind Hi Ho Silver	Complete
Tiber Park Culvert Debris Clean-up: recommendation of the 2017 Tiber-Hudson Stream Corridor Assessment- Site 1	Complete
Valley Mede Storm Drain System Mapping	Complete June 2017
Stream Wall at 84-inch Culvert in 8600 Block of Main St	Design Complete; Construction starting Summer 2017
84-inch Culvert Enlargement 8600 Block of Main St	Design Complete; Holding to coordinate with H and H Study recommendations
Stream Channel Wall at 8659 Main St	Design Complete; Construction starting Summer 2017
Comprehensive Floodproofing Study by US Army Corps of Engineers: conducted as a result of the 2015 Flood Work Group Report	In progress
Comprehensive Valley Mede H and H Study	In progress
Rebuild Stream Channel Wall behind Old Theatre	In progress; expected completion June 2017
Stream Clearing on the north side of West Main St	Easements obtained; In progress
Valley Mede Stream Restoration Project	Design in progress; Construction to begin late summer 2017
Stream Wall between Parking Lots E and F: conducted as a result of the Stream Channel Wall Inspections	Under Construction; expected completion June 2017
Upgrade of Storm Drains on Emory and Church Streets	Currently Performing Repairs
Upgrade of Storm Drains on Old Columbia Pike	Currently Performing Repairs
Reform Stream Channel at Tiber Park: recommendation of the 2012 Tiber-Hudson Stream Corridor Assessment- Site 1	Further evaluation needed in FY 18 through Master Plan Process
Replace Cinder Block Wall: recommendation of the 2012 Tiber-Hudson Stream Corridor Assessment- Site 4	Further evaluation needed in FY18
Replace Sandbag Wall: recommendation of the 2012 Tiber-Hudson Stream Corridor Assessment- Site 6	Further evaluation needed
Culvert Re-Design under Brew Pub: recommendation of the 2017 Tiber-Hudson Stream Corridor Assessment- Site 3	Further evaluation needed in FY 18 through Master Plan Process
Stream Restoration between Court House Drive and Fels Lane	Further evaluation needed in FY 18
George Howard Building Drainage Project	In design
Court House Drainage Project	In design

Ellicott City Watershed Master Plan

Rebuilding *with* Resilience



Master Plan Scope

Integrated Approach to Building Resiliency and Reducing Risk

- Physical Planning | Urban Design | Placemaking
- Transportation | Parking
- Infrastructure Improvements
- Economic Development | Community Marketing
- Funding Strategies | Implementation

Core Team

Public Engagement Associates

Mahan Rykiel Associates

Tom McGilloway, PLA | Principal in Charge, Project Manager
Andy Kalback, ASLA
Megan Griffith, AICP
Jeff Dube

Arnett Muldrow & Associates

Tripp Muldrow, AICP
Ben Muldrow

RK&K

John D'Epagnier
James Burnett, PE PTOE
Matthew Thomasson

Resources Team

LandStudies

Kelly Gutshall
Ward Oberholtzer

South Coast Consulting

Stacy Pair
Stephanie Francis

Preservation Consulting

Lisa Jensen Wingate

Respond

Recover

Rebuild

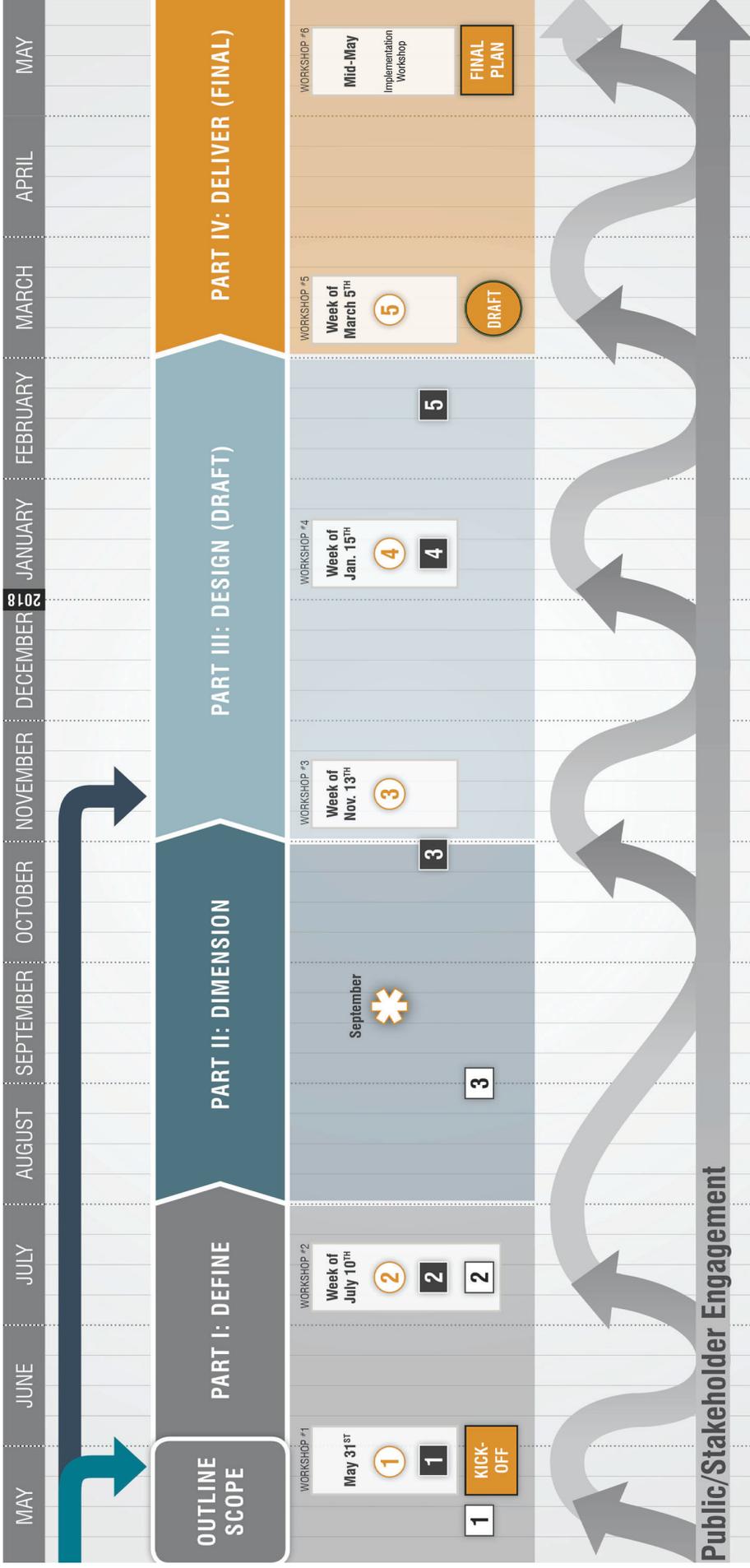
When a disaster strikes, community unites. In the hours following the July 2016 flood event in Ellicott City, community officials, businesses, neighbors, family, and friends far and wide reacted immediately to demonstrate support and provide assistance.

In the weeks that followed, County officials and citizens of Ellicott City began to **RESPOND** in direct ways to assess the damage and consider what steps should be taken next. In the months that followed, Ellicott City began **RECOVERY**—infrastructure was repaired and restored, businesses began to reopen, and conversations were initiated to identify actionable steps to restore the community.

We now begin the process of **REBUILDING** Ellicott City stronger and more resilient than before.

SCHEDULE OF MEETINGS

-  Public Meeting
-  MPAT Meeting
-  Technical Team Meeting
-  September Pop-Up Engagement
-  Army Corps Study
-  McCormick Taylor H&H Study



Key Touchpoints

- Week of July 10th | Workshop #2 — Public Meeting #1
- September | Pop-Up Engagement Event
- Week of November 13th | Workshop #3 — Public Meeting #2
- Week of January 15th | Workshop #4 — Public Meeting #3
- Week of March 5th | Workshop #5/Draft Plan — Public Meeting #4
- Mid-May | Workshop #6/Final Plan — Public Meeting #5

Relevant Recent/Concurrent Efforts:

- McCormick Taylor Hydrology & Hydraulic (H&H) Study (published)
- Community Advisory Group (CAG) Final Report (published)
- Stream Corridor Assessment 2016 (published)
- Army Corps Flood Proofing Study (Summer 2017)
- Economic Impact of the 2016 Ellicott City Flood (published)
- Urban Land Institute (ULI) Ellicott City Technical Assistance Panel (TAP) Report (published)

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Hydrology and Hydraulics Study Presentation

Chris Brooks, McCormick Taylor

What does the flood model do?

- Determines quantity of water on Main St./Frederick Rd. from US 29 to Patapsco River
- Shows amount, depth, velocity of water
- Replicates July 30, 2016 storm
- Replicates “standard” storms
 - The “100-year storm” has a 1% chance of happening in each year

Hydrographs demonstrate distribution of flow over time of a storm event

- Measured in cubic feet per second (cfs)
- Area under the curve is the total storm volume in cubic feet or acre feet
 - 1 acre-foot = 1 foot of water over 1 acre area

Watershed Hydrology

- Entire Tiber River Watershed analyzed – 3.7 sq. mi.
 - Previous study only analyzed Hudson Branch – 1.55 sq. mi.

Mitigation Concepts Reflect Public Input and CAG Recommendations

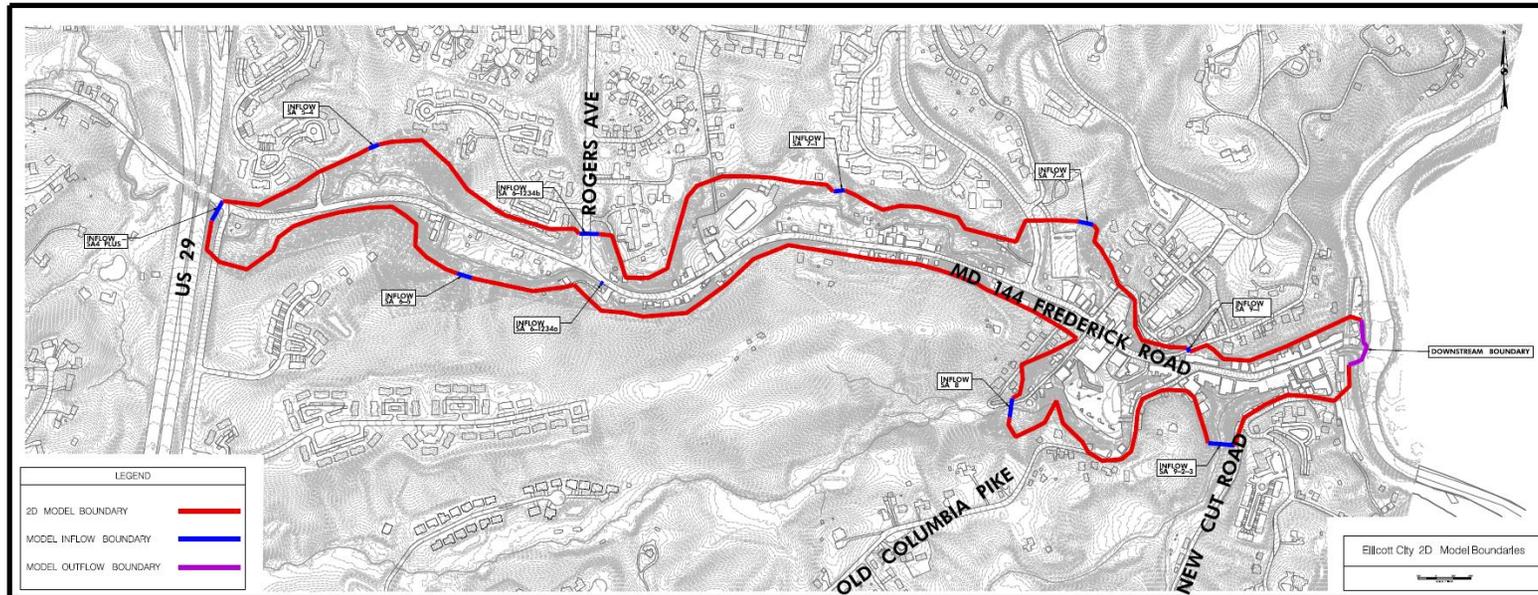
- SWM improvements considered:
 - Large online storage ponds
 - Underground Management
 - Analysis of Existing SWM Pond Expansion
- Capacity improvements considered:
 - Additional culverts along Main St. in West End
 - Supplemental Cross Culverts
 - Additional Flow Conveyance at Lower Main St.

Impact of Development

- Watershed modeled as 100% undeveloped except for Main St.
- Reduction of flows ~45% over current development but still significant flooding



Ellicott City Watershed Master Plan



2-D Model Boundary

Conclusions

- The expanded model provides a further basis for prioritizing alternatives within Master Plan
 - Many effective options identified
 - Details will evolve through the process
- It's a long range effort
 - Years to decades to fully implement
 - Start with most effective and efficient approaches
 - County will develop a timeframe for funding
- Always some threat of flooding
 - Does not help Patapsco backwater (Agnes-type) event