CAMBRIDGE SHORELINE RESILIENCE PLAN

Cambridge Creek Public Meeting

September 29, 2021

7:00 PM – 8:30 PM

WHCP Community Radio, 516 Race Street, Cambridge, MD 21613

Public Meeting Notes

Meeting Discussion Topics:

- Outreach Initiatives
- Recent Projects & Stormwater Assessment
- Flood Risk & Vulnerability- Cambridge Creek
- Ideas for Flood Risk Protection
- Level of Protection

Outreach Initiatives

- Project Website- www.makecambridgeresilient.org
    - Several meeting participants indicated that they had visited the project website. The project website is periodically updated and serves as a "one stop shop" for all project related information. Meeting participants were encouraged to visit the project website.
    - Email sign-up prompt has been included on the project website to stay informed about upcoming events. The newspaper, radio, Cambridge Association of Neighborhoods and City website also provides information on outreach events.
- Visual Preference Survey
    - Over one hundred (100) people have completed the online survey. Survey results have been integrated into the planning process. For those meeting participants who had not had an opportunity to complete the survey, the project website and the City of Cambridge website homepage include the VPS.
- Cambridge Shoreline Resilience Plan - Open House & Listening Session was held on August 10th at the Dorchester Center for the Arts.
    - Approximately eighty (80) people attended the outreach event. The open house, held in the gallery area, included graphic displays, informational brochures, and a flood modeling station. The listening session, held in the upstairs Performance Hall, included a brief project overview and then a series of discussion questions that participants discussed amongst those within their table group. Each table group selected a spokesperson who gave a report out to the larger group. The listening session was a great opportunity to hear public concerns specific to flooding and ideas for flood risk reduction solutions for both current and future conditions.
    - Concerns pertaining to both the sanitary and stormwater systems were voiced, as well as concerns over current and future flooding. Please see detailed meeting notes for additional information on the project website located under the "Public Involvement & Events" tab.

Public meetings to discuss project site specific flood risk reduction solutions were scheduled on September 29th and 30th. The four sites included: Great Marsh Area-Gerry Boyle Park Public Meeting, **Cambridge Creek Public Meeting,** City Marina Public Meeting, and the West End Public Meeting**.**

Recent Projects

Oakley Street Seawall Replacement
This project will consist of demolition and removal of the existing deteriorated concrete seawall and construction of a new concrete wall in the same location. The new concrete wall will be similar in appearance but will be elevated approximately 15" to provide additional protection. A contract for construction has been awarded and construction started in early September and is projected to last several months. The total project cost is approximately $342,000 with 75% being funded by a grant from Maryland Department of the Environment and 25% with local funds.

Efforts to Address Ongoing Sewer Backup Issues in the West End Area
The City is aware of ongoing sewer problems in the West End area and has included funding in the current budget to begin addressing the issue. The budget includes $500,000 for planning and design services for improvements to the sewage collection system and Trenton Street pumping station which services the area. Another $100,000 has been budgeted to remove excessive grit and sediment from the sewer lines to improve capacity and performance. The city was unsuccessful with a recent grant request for $3.86 million from the FEMA Building Resilient Infrastructure and Communities (BRIC) grant program for sewer system upgrades but will continue to seek grant opportunities.

Partnership with University of Maryland Center for Environmental Science Horn Point (UMCES Horn Point) Larry White shared with meeting participants the following information:

- Project Team has been researching state-of-the art design, construction, and quantification of benefits of "Living Shore projects" as part of flood mitigation projects.
- UMCES at Horn Point has conducted extensive research related to storm and wave energy dissipation in estuaries such as the Chesapeake Bay and are considered a leader in the design of living shores and other offshore flood mitigation measures.
- Given UMCES capabilities in this area and unique knowledge of the Chesapeake Bay and issue related to sea level rise in the region, the project team is engaged in discussions to support the City of Cambridge Project.
- The project team will take advantage of the research completed by UMCES in this area in preparing our 2021 FEMA BRIC Grant application and plan to implement an agreement with them to support our project design team once we receive notice of funding for our project.

Stormwater Management Assessment

Stormwater management systems are typically designed to a 10-yr storm. As part of this new stormwater assessment, other storm scenarios will be considered. The assessment includes:

- Determine what year storm conveyance, storage, and pumps will be sized.
- Evaluate additional capacity that will be needed to convey water that overtops planned shoreline barriers.
- Evaluate placement of tide gates and pumps at end of the road conveyance lines.
- Evaluate placement of sub-surface drain and weeping tile in open spaces to convey water to storage locations with pump station.

Updates on the stormwater management assessment will be provided as they become available.

City of Cambridge, MD - Stormwater Network

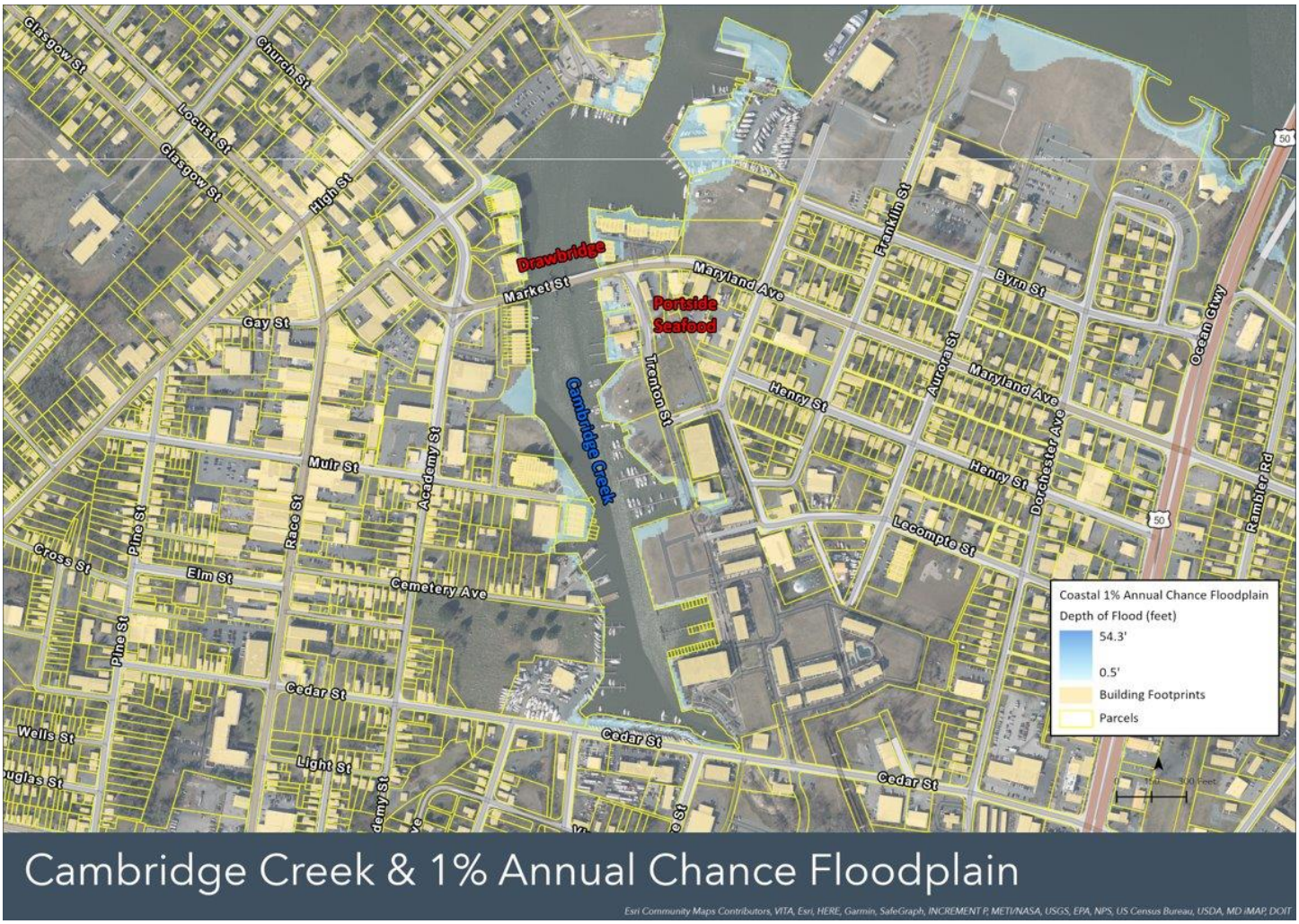
with Web AppBuilder for ArcGIS

1- 15" Outfall Pipe
2- 27" & 15" Outfall Pipes
3- Wooden Bulkhead w/ Drainage Opening
4- 38" x 24" Outfall Pipe
5- 15" Outfall Pipe & Openings in Concrete Seawall
6- 15" Outfall Pipe & Openings in Concrete Seawall
7- 18" Outfall Pipe & Openings in Concrete Seawall
8- 30" Outfall Pipe
9- 30" Outfall Pipe
10- 12" Outfall Pipe
11- 24" & 18" Outfall Pipes
12- 24" Outfall Pipe

600ft

-76.082 38.581 Degrees

Flood Risk Vulnerability- 1% Annual Chance Floodplain



FEMA provides communities with updated Flood Insurance Rate Maps (FIRMs) and Flood Insurance Study (FIS) Reports that focus on the probability of floods and that show where flooding may occur as well as the calculated 1-percent-annual-chance flood elevation. The 1-percent-annual-chance flood, also known as the base flood, has a 1% chance of being equaled or exceeded in any given year.

Food Risk Vulnerability- Climate Ready Action Boundary

Maryland Coast Smart regulations that went into effect on September 1st, 2020 - now require State projects over $500,000 for construction or State funding to apply the corresponding horizontal limits of the higher 100-year + 3 feet inundation as indicated by the Coast Smart - Climate Ready Action Boundary (CSCRAB).
The FEMA Floodplain Limit remains inundated with an additional 3 feet of water added to it. The Newly Inundated area shows how 3 additional feet of water moves across new areas of the landscape based on the land elevation profile or Digital Elevation Model (DEM). The map layers on this page illustrate that (A) the Digital Elevation Model, should be added to (B) the CS-CRAB Inundation Height to Indicate the Required CS-CRAB Elevation or (A) + (B)

Ideas for Flood Risk Reduction

- Residential Condo and commercial structures will need to be floodproofed to at least the Flood Protection Elevation (BFE + 2 feet of freeboard).
- Residential structures within the floodplain, high risk, should be evaluated and/or acquired based on flood vulnerability.
- FEMA Floodproofing options for commercial structures.

Additional comments, questions, and suggestions collected from meeting participants included:

- Rooster Island
  - Not maintained
  - All sand washed away into Hambrooks Bay
- Who will maintain the flood mitigation structures?
- Maryland Avenue has drainage issues
- Level of Protection – Above 5 feet, not minimal level
- Historic properties and mitigation measures were discussed
  - Add Historic Structures Mitigation information to website
- Horne's Point – Classes offered to public – Add to the website
- Property owner identified gap in study that was located between Cambridge Creek and City Marina
- Concerns over flood barriers pushing water into other areas that are not currently flooded
- Agreed that bulkhead extensions where needed would be the best mitigation measure and approaching property owners with independent mitigation actions

Level of Protection

The map depicting a continuous protection along the shoreline was presented and discussed. As part of this discussion participants were asked for their feedback on the level of protection needed for proposed flood risk reduction solutions.

Level of Protection

- Minimal of 5 feet
- Additional level of protection – 7 feet
- **Meeting participants provided positive feedback for additional level of protection.**

Contiguous level of flood protection along the entire alignment of the Choptank River because there is no way to hydraulically separate areas.