



Potomac River Waterfront Flood Mitigation Study Summary of Community Meetings and Comments Received

There is a record of continuous interaction and involvement with the public on the development of the study and proposed recommendations. In addition to participation in all Waterfront Plan meetings, the following Public Meetings were held or attended specifically to discuss the Potomac River Waterfront Flood Mitigation Study:

October 4, 2006: Presentation to Flood Mitigation Study Advisory Committee.

September 26, 2007: Public Meeting.

March 18, 2008: Waterfront Committee Presentation.

April 17, 2008: Park and Recreation Committee Presentation.

June 27, 2009: Mitigation Alternatives Charrette.

November 17, 2009: Waterfront Committee Update Presentation.

March 16, 2010: Public Meeting.

April 20, 2010: Waterfront Committee Presentation of Final Study results.

The following is a summary of comments and questions received at the meetings hosted by T&ES staff:

**City of Alexandria
Potomac River Waterfront Flood Mitigation Study
Nannie Lee Recreation Center, Alexandria, VA
October 4, 2006 at 7:30 pm**

The input received included the following issues:

- The perception of flooding vs. actual flooding.
- The amount of pre-flood notice and access to sandbags.
- The effect of extreme (e.g. Isabel) vs. more routine types of flooding.
- The desire for the forthcoming waterfront plan to also address flooding.
- The impact of monthly tidal cycles on flooding.
- The impact of flooding on parks.
- How to best educate everyone on responding to flood related problems.
- The impacts of flooding on the marina and leaseholders.
- Concerns about the flooding of parking garages.



Questions asked after the presentation included:

- What is the definition of a nuisance flood?
- Does nuisance flooding have more impact on historic buildings?
- Do we know a flood event will happen before it happens?
- Are you looking at structural solutions such as elevating the street that was done at Prince and Union?
- What were the conditions at Prince and Union before this?
- Does the City clean the storm sewers right before heavy rains are expected?
- Could you dredge the Potomac so there was more capacity to handle flood waters?

Other issues raised about flooding included:

- The effect of wind on flooding.
- The need to talk to those most affected by nuisance flooding about their perspective on it.
- Consider residential costs and impacts as well as business impacts.
- Lack of FEMA assistance for businesses.
- Gas/Electric Company shutdown power to area.
- The group also discussed the high tide conditions that were experienced Thursday and Friday before Labor Day. Based on USGS gage data, the elevation of this tide was approximately 5.6 feet.

Potential solutions identified by the advisory group:

- Consider notifying property owners and residents in the flood areas.
- Consider providing identification cards to business owners which would allow them to cross police lines and get back in the area quickly after a flood.
- Work with the media to mitigate negative press.
- Develop a public awareness campaign.
- Provide timely updates to affected businesses and residents, including when they are allowed to return to the area.
- Develop an email and phone tree flood warning system.
- Consider moving parked vehicles prior to a flood to speed cleanup and lessen damage

A second public meeting was held on September 26, 2007. This meeting was targeted to the local business community. Staff distributed several surveys to collect specific data for each commercial property and to solicit input on project priorities for the study.

**City of Alexandria
Potomac River Waterfront Flood Mitigation Study
September 26, 2007 at 9:00 am**



Summary of Questions/Answers

1. How much warning do the city and business owners have before flooding?
2. The media doesn't believe business owners that the area won't flood. Can the City send someone out to speak to the media on these matters during these times?
3. Are the FEMA flood maps being revised?
4. Where does the 0 line start on contour lines? How was it established?
5. Has the City done a hydrology study on the storm sewer system?
6. Can the City make the tides online information available on the City Web site or to the business owners in another format?

Comments

- Several business owners believe that nuisance flooding is when street flooding occurs due to the backup of storm drain systems, not the overtopping of the seawall. It was suggested that solutions that address flooding levels less than four feet be considered. It was agreed that potential solutions would not be discounted for flood levels less than four feet. It was suggested that the flood level which causes the city to put barricades out should be considered the nuisance level.
- The businesses generally believe that nothing can be done about flood levels of 8 feet.

Solutions Suggested by the Business Representatives

- Prevent storm drain backup.
- Reduce flooding by building a jetty at an angle below or above the Robinson Terminal if it's feasible. It was discussed that building a jetty won't have an impact on flooding in the City.
- Build a temporary levee system similar to Georgetown.
- The business representatives were adamant that there be no visual change to the waterfront area.
- For nuisance flooding, change the criteria to consider street flooding rather than a measure of when water touches the building. Streets being closed cause business losses.
- For catastrophic flooding need better predications of potential flooding.
- A permanent levee/floodwall would not be approved by City businesses.

Businesses Suggestions on Cost Considerations

- Consider utility costs (the cost to send telephone and power people back out to the neighborhood when there is flooding).
- Consider the cost of flooding to the City and local businesses from the loss of revenue due to impacts to the future water taxi business when flooding occurs. This is a problem at the landing area and along the walk behind the Chart House.
- Consider the labor costs for other water tour businesses when nuisance flooding occurs and these businesses have to change their drop off location.



The last public meeting to present the recommended mitigation measures to the public outside of the Waterfront Plan presentations occurred on March 16, 2010. This meeting was held at the Lee Center from 7PM to 9PM. A mailing list of approximately 1,250 addresses was sent a notification. A presentation was given by the consultant, Mary Roman @ URS Corp. and there was a period of Q&A following the presentation. This meeting was recorded and video is available. All of the following questions listed were answered by staff.

**Questions from the Public at
Flood Mitigation Study Public Meeting
Lee Center
March 16, 2010**

1. What is the cost per square foot for floodwall?
2. With the elevated walkway how do you drain water after large event?
3. Where would levee come from (how is it paid for)?
4. How close does pump building have to be to the wall?
5. What is the estimate of how the floodway would reduce a 100 year flood?
6. Were costs for pump stations included in the cost estimate?
7. For the design of the berm and pumping stations did you look at junk (tree branches, trash...) and how you get that out of the system?
8. Are any other cities employing floodwall? Are there many similar waterfronts (historic)?
9. What is timeline for this project?
10. Have you taken into consideration global warming?
11. How far back does data go on frequency and heights? Do you see trends?
12. What is the purpose of the study?
13. What was the BC for the walkway?
14. Floodwall only works if continuous. How will you make it continuous?
15. Is there enough room on both sides of wall to make elevation?
16. Did you look at best business practices of other communities similar to Alexandria?
17. What is existing dialogue? Are you talking lower Potomac?
18. Does this study look at how to deal with events like this weekend with flooding from saturated ground?
19. Is most structural damage from doorways or back up sewers?
20. Are there any models depicting rainfall data?



Potomac River Waterfront Flood Mitigation Study Summary of a Floodproofing Option to Protect Structures

The Flood Mitigation Study evaluated floodproofing of existing structures as a means of protecting structures and their contents. Floodproofing is discussed in detail in Section 6.6 of the Study. Due to the historic nature of many of the buildings, there are several challenges with floodproofing in this area. Materials used for floodproof doors and windows may not be appropriate in a historic district.

Staff was asked to evaluate the structures that are protected by the proposed nuisance flood mitigation project (protection to Elevation 6.0) and provide information regarding floodproofing of those structures as an alternative. Based on preliminary review, the cost to floodproof the commercial structures in this area would range from \$15,000 to \$40,000 per structure. The cost varies due to the number of windows, doors, and other openings in a given structure.

While floodproofing would protect structures and contents from damage, it would not protect areas outside of the structures from damage and debris accumulation. Floodproofing also does not ensure access to businesses in the area during a nuisance flood event.