

# Floodplain Vulnerability Assessment Q&A

Questions sent by President Schmaltz on 6/13/23

The following questions and answers pertain to the proposed Floodplain Vulnerability Assessment, which is currently budgeted for in the draft 2024 budget. Staff submitted a grant proposal to do the study in 2023, but the grant was not awarded, most likely due to the fact that the CLFLWD is not located in a priority area for the grant program (i.e., an Environmental Justice Area of Concern). This is the second year in a row that the District unsuccessfully applied to this grant program. We are not aware of other grant programs like this one that would fund such an effort. As such, the 2024 budget entails funding this effort from the District's levy.

Staff received the following questions from President Schmaltz and worked with Emmons & Olivier Resources staff to provide responses.

1. **Q:** Will [the floodplain vulnerability assessment study] show what properties /assets will be flooded?

**A:** Yes. In fact, the flood hazard map that we displayed at the June budget workshop (also included below) partially answers this question. The study would go a step further. See this paragraph from our grant proposal:

The Comfort Lake-Forest Lake WD has a recently-updated, detailed hydrologic & hydraulic model (SWMM) of its watershed. In 2022 CLFLWD used the model to evaluate future climate change scenarios considering **hazard** (impacts that may cause loss of life, damage and loss to property, infrastructure, livelihoods, service provision, and environmental resources). The proposed project [work yet to be done] will evaluate **exposure** (the presence of people, ecosystems, infrastructure or economic, social or cultural assets in places that could be flooded) and **vulnerability** (the propensity to being adversely affected including susceptibility to harm and lack of capacity to cope and adapt). This flood risk assessment will apply a novel GIS-based approach to qualitatively identify where flooding vulnerability would occur and will engage member communities in assessing risk and the need for future model refinement(s) and analyses as they seek to further define their role in flood protection and/or mitigation.

2. **Q:** Will this info drive the city/WD to find ways to reduce the flooding by purchasing other properties for development of a flood protection strategy?

**A:** Yes. Land acquisition is just one of multiple methods that could be used to mitigate flooding; it's not the only tool in the toolbox. Strategic planning and communication with municipalities and other government partners will be important as well. CLFLWD will give our partners the data, which will help partners make better planning, development, infrastructure, emergency response decisions. The CLFLWD might yet construct some projects of our own, but we aren't in this alone – flood mitigation is a team effort, and various government entities have their own roles in it.

3. **Q:** Will the focus on selected properties in any way contribute to how our Greenspace plan will evolve? How?

**A:** Yes. A greenway corridor/greenspace could have multiple benefits such as water quality, wildlife habitat, and flood storage. We've discussed these priorities in our past greenway workshops and meetings. A greenway corridor could mean so many different things (e.g., some might think public recreation is the biggest priority for a greenway corridor, while others might think recreation shouldn't be the main focus). This is where it gets difficult and why prioritization is so important – a greenway corridor could look very different depending on your priorities. Staff has been recommending that we focus on the priorities in our Watershed Management Plan – in a nutshell: protect/restore wetlands, protect/restore natural buffers, preserve water quality, and add flood storage volume.

4. **Q:** How else will the study and subsequent action from the study contribute to the community/WD plans?

**A:** Generating these types of watershed-wide layers can be useful for homing in on potential problem areas and candidate project sites, while also being a useful set of reference layers for day-to-day activities like permit review and understanding the key places to focus on H&H model refinement.

The goal statement and project deliverables from our grant proposal are below, which should help provide more context. Additionally, here are some examples of potential outcome scenarios: the text below stating that the study will “prioritize locations to advance planning and actions to address climate and flood risk” might translate into something like: “here is a high risk/high vulnerability area; here are the drainages upstream and downstream of this area; we could resize this culvert or that culvert in order to hold more water upstream in a natural wetland area or send more water downstream into a constructed volume control facility.” These systems are very complex, and the potential actions to mitigate flooding could be numerous. It could range from culvert resizing to constructing a volume control basin to installing a weir someplace, etc.

One of the first steps might be to meet with communities/municipalities to review the Flood Hazard Layer and the Social Vulnerability Layer to identify the areas that appear to be high risk/high vulnerability. Since the mapping tools don't account for the storm sewer system, it would be good to vet what appears to be high risk/high vulnerability areas with city staff. Communities might know if these areas require further evaluation or if they have the infrastructure in place to pass the flows without problem. If there are questions about what is going on in a particular area, this might indicate a need to refine the District's H&H model. This could result in a feasibility study which would result in the kind of project used as an example above.

The CLFLWD would want to consider how it defines high risk/high vulnerability areas. There may be portions of the system that experience nuisance flooding for smaller storm events (more frequently). If these conditions occur in low income portions of the watershed, this may be the type of situation that the CLFLWD and the city should tackle in order to alleviate flood risk. Pairing the Flood Hazard Layer and the Social Vulnerability Layer with the H&H model might allow for a more formal flood risk assessment that can be used by the CLFLWD and the cities to rank high risk/high vulnerability areas for the implementation of capital improvement projects.

## **Goal Statement and Project Deliverables from Grant Proposal**

### **Goal statement:**

- Utilize the CLFLWD's newly developed GIS datasets to develop a better understanding of the current and future climate risks facing the watershed district, its member communities and vulnerable communities located in the Comfort Lake-Forest Lake Watershed District.
- Prioritize locations to advance planning and actions to address climate and flood risk (i.e., hazard, exposure, vulnerability).
- Establish preliminary goals for a watershed district flood protection program.
- Utilize the feedback collected during this project to inform the specific needs for a flood risk assessment by evaluating the hazards, exposure, and vulnerability to historical extremes as well as future climate change projections using the District's hydrologic and hydraulic model)

### **Project deliverables:**

This assessment will ultimately inform the development of adaptation goals and strategies aimed at improving the response to flooding and resiliency of the system. Specifically, the project deliverables will include:

- Watershed-wide Classified Flood Hazard Layer (calibrated using the watershed district H/H models where available)
- A set of static reference maps and an interactive web-based reference map.
- A map book identifying the infrastructural, social and environmental assets that may be vulnerable to climate change, with an emphasis on historically underserved and at-risk communities
- Report summarizing the outcomes of the community resilience building workshops including recommendations for next steps.

# Flood Hazard Map

