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When the DC Flood Task Force was established in September 2021, the District was a year removed from the significant flooding due to rainfall on September 10, 2020 that affected many residents and businesses. District agencies were diligent in their efforts to help residents after such a significant rain event, but it was clear more action and long-term planning was needed to prevent future flood damage and assist with rapid recovery. As that event illustrated, flooding is a complex problem that requires input and action from multiple District agencies, and greater coordination is needed.

Since its establishment, the DC Flood Task Force has achieved a significant step forward in identifying actions the District can take to improve flood-preparedness, resilience, and collaboration across agencies. Special thanks are due to the Task Force co-chairs, then-Director Tommy Wells of the Department of Energy and Environment (DOEE), and CEO and General Manager David Gadis of DC Water, for their leadership. I am extremely proud to say there are 27 specific and implementable actions included in the report, and that these actions were developed through public input, agency collaboration, and thoughtful consideration. And importantly, each action has been evaluated and analyzed through the lens of racial equity and social justice. If implemented, the proposed actions presented here will advance racial equity and remediate vulnerabilities and problems most acutely affecting historically Black neighborhoods and members of historically marginalized groups.

I am pleased to present this final report to City Administrator Donahue and I look forward to working with agencies to implement these actions to make our city more flood resilient.

Lucinda Babers
Deputy Mayor for Operations and Infrastructure
The Flood Task Force for the District of Columbia was established by the City Administrator (OCA) in September 2021 to identify policies and projects to bolster flood readiness while equitably protecting the District's residents and economy from the damage that floods can cause. The Flood Task Force members included 13 District agencies and 15 committed federal and public partners who collaborated over 16 months to develop targeted actions to address and reduce the impacts of flooding in the District.

Action Plans
The primary product of the Task Force was the development of Action Plans that outlined specific strategies and actions that could increase the District's flood resilience. To create these action plans, the Task Force met 32 times and hosted two public listening sessions to discuss potential actions. Based on these conversations, the Task Force has recommended 27 actions. They include proposals to update the District’s flood maps to account for climate change and interior flooding, repair and upgrade homes to be more flood resilient, install neighborhood scale flood infrastructure, and improve internal agency process for flood related permitting and complaint resolution, along with multiple proposals to increase availability and affordability of flood insurance. The Task Force unanimously voted to approve all 27 Action Plans for submission to the City Administrator. They are summarized in the Action Plans section and presented in full in the Appendix.

Funding Options
Some Action Plans can be accomplished without any extra funding. However, the majority would require additional funds. Task Force member agencies are well-informed of recent federal funding opportunities such as the Bipartisan Infrastructure Law (BIL) and Inflation Reduction Act (IRA) and aim to seek as much federal grant funding as possible. It is likely though, that local or other private funds would be necessary as well. The report provides estimated costs of each action item and identifies requests in the FY2023 and FY2024 District Budgets.

The Road Ahead
The Task Force has made significant strides in taking a large, multi-agency, complex problem and breaking it into pieces that can be addressed with Action Plans. The implementation of the these plans will require individual agencies to develop programs, policies, and projects that will ultimately be subject to other approval processes and budget availability. Some actions can begin implementation right away, while others require further study and consideration or funding that is not yet available. The Department of Energy and Environment and DC Water will work to coordinate agency budget requests and continue progress on actions identified for implementation over the next several years.
Summary of Activities

The DC Flood Task Force held its first meeting on November 17, 2021 and its last meeting on January 18, 2023. The guiding focus of the Task Force was to identify equitable ways to reduce the risk of water damage from coastal, interior, riverine, and sewer backup floods in the District, as well as ways to reduce the financial impacts of flooding on low- and fixed-income homeowners.

Timeline Overview

- Established by the City Administrator - September 23, 2021
  - Reports to the Deputy Mayor for Operations and Infrastructure
  - Co-Chairs CEO and General Manager of DC Water and Director of DOEE
- Flood Task Force Kick-Off Meeting - November 17, 2021
- Proceedings Open to the Public - 2021-2023
  - Monthly Action Team Meetings
  - Bi-Monthly Full Task Force Meetings
  - 2 Public Listening Sessions - March 2022
- Flood Task Force Final Meeting - January 18, 2023
Summary of Activities

By the numbers:

- **8** Full Task Force Meetings
- **24** Action Team Meetings
- **35+** Public Engagement Opportunities
- **27** Developed & Adopted Action Plans
- **2** Public Listening Sessions

DC Residents asked questions like:

1. Has there been an assessment of backwater valves in homes located in Wards 7 and 8 floodplains?
2. Will the city help seniors with a fixed income cover installation of discussed solutions?
3. Can you give a timeline of current projects in Brookland? When will they be completed? Can any phase be completed earlier or will there be delays?
4. In the Ward 7, Watts Branch watershed area, on the 700 block of Anacostia Avenue SE, during heavy rain events there is stream flooding. I am not sure of the solution, but what kind of options are being considered?
5. How will the District get the word out about flood safety and programs? Will there be more green infrastructure jobs for residents?
Action Plans

Action Plans are the primary product of the Task Force. Each plan provides a roadmap for potential work to be done over the next 10 years to make the District more flood resilient. There are 27 plans in total, each belonging to at least one of the action categories described below, which were initially defined by the City Administrator in his establishment of the Task Force.

1. Insurance
2. Repairing Flood Damage
3. Floodproofing
4. Sewer Line Backup Prevention
5. Flood Infrastructure
6. Regulations and Permitting
7. Mapping and Modeling
8. Planning and Coordination
9. Emergency Response

Action Plan Development Process:

The Task Force began with initial ideas from agencies about what problems needed to be solved to reduce flood risk. Those ideas were discussed during Action Team meetings, and ultimately narrowed into a smaller list. Early in the process, the Task Force held Public Listening Session meetings in March 2022, to capture public input and feedback to address concerns and needs of residents and businesses. Throughout the process of developing Action Plans, public outreach and engagement continued to ensure the Task Force was on track to create plans that provided useful solutions. Action Teams incorporated ideas further refined by lead agencies and then presented them to the Task Force for open discussion. These plans went through an end stage review by District agencies, 30-day open public comment period, and agency edits were released for approval by the full Task Force.
Action Plans

What is in an Action Plan?

Each Action Plan recommended by the Task Force follows a standard template that aims to make it clear who would be responsible for implementation, when they are recommended to be implemented, and if additional funding is required. Importantly, each Action Plan also addresses the question: How does this action prioritize equity and residents who are most impacted? Most of the areas in the District that are known to be at risk of flooding are inhabited by residents who are vulnerable and economically disadvantaged. In many of these neighborhoods, a majority of residents are Black, Indigenous, and People of Color (BIPOC) – historically underserved populations. While the idea for many of the Action Plans is centered around equity and helping these populations, inclusion of this question and answer in each Action Plan is one way to ensure the policies and projects resulting from this Task Force will equitably protect District residents and economy from the damage that floods can cause.

It is important to note that each Action Plan is only a recommendation from the Task Force; implementation of any Action Plan is subject to further reviews and approvals, such as those of the City Administrator and Mayor. Action plans to develop new regulations will require those regulations to be drafted by a lead agency, reviewed by the Attorney General, the Mayor, and the public. Moreover, most of the Action Plans depend on the allocation of funding not currently included in the District's budget or financial plan. The District's implementation of each Action Plan, therefore, will depend in part on the availability of funding and the many competing needs of District residents and the District government.

How do I view the Action Plans?

To follow in this section, there are one-paragraph summaries for each of the 27 Action Plans recommended by the Task Force. Icons next to the title depict the associated Action Team and Action Category. The full version of each Action Plan is included in the Appendix. To sort and view the list of Action Plans by lead agency, category, or status, please visit:

dcfloodtaskforce.org/action-plan-hub/
Action Plans

In the following pages (8 -21) each of the 27 action plans are summarized in a paragraph. The full action plans are included in the appendix.

Action Plan 1.5 – Join FEMA’s Community Rating System to Reduce Insurance Premiums

Summary:
The Federal Emergency Management Agency's (FEMA) Community Rating System (CRS) is a voluntary program that allows communities to reduce flood insurance premiums for residents. Higher discounts are earned through enacting floodplain management activities that exceed the minimum requirements necessary for participation in the National Flood Insurance Program (NFIP). Participating in the CRS program is not without cost – it will take one additional permanent staff position and substantial coordination among District agencies to collaborate and report on progress annually to FEMA. As a result, DOEE will first analyze the costs and benefits to joining the program, and only join the CRS if the analysis recommends it, approvals are received, and budget is available.

Action Plan 1.6 – Increase Insurance Outreach

Summary:
The goal of this action is to implement an outreach plan to make individuals and communities aware of the many insurance programs that help DC residents control or mitigate potential flood related hazards. If funded, the Department of Insurance, Securities and Banking (DISB) would conduct this outreach yearly with the goals of increasing awareness on flood insurance, increasing the number of residents with insurance policies, and collaborating with other agencies on insurance program research and implementation.
Action Plans

**Action Plan 1.7a – Water Damage Remediation Grant Program**

*Summary:*
Action Plans 1.7a and 1.7b are both designed to provide remediation assistance to low-income residents of the District after a water event causes damage to their homes. One or both of the actions can be implemented. In 1.7a, the program focuses on claims under $3,500. If the program is approved and funded, it would aid income eligible homeowners and renters who have suffered property damage associated with a water damage event in the District. Coupons would be provided to qualifying District residents up to $3,500 to purchase remediation-related products and services from vendors.

**Action Plan 1.7b – Water Damage Remediation Insurance Program**

*Summary:*
Action Plans 1.7a and 1.7b are both designed to provide remediation assistance to low-income residents of the District after a water event causes damage to their home. One or both of the actions can be implemented, though further study and idea development is required before deciding whether to implement 1.7b. In 1.7b, the program focuses on claims under $10,000. If the program is approved and funded, the District would contract with a property and casualty insurance company licensed in the District through a competitive bidding process to issue a specially designed group insurance policy to the Office of Risk Management (ORM) that would provide $10,000 of insurance coverage in the event that an eligible property has experienced a water damage event in the District.
Action Plans

Action Plan 1.9a – Home Insurance Water Damage Mitigation Credits

Summary:
The goal of this program is to incentivize homeowners and renters to mitigate water damage and insurance losses by receiving premium discounts on their homeowner’s or renter’s policy when certain water intrusion prevention devices are installed in their homes. Pursuant to this action plan, DISB would draft new regulations and legislation, which if approved and passed, would require insurers providing homeowners’ or renters’ policies in the District to establish a premium discount program with water damage intrusion mitigation credits. Homeowners or renters would qualify for premium discounts when water shut-off devices, water leak sensors, or backflow valves are installed in the home.

Action Plan 1.9b – Enhanced Water Damage Coverage for Homeowner’s Policies

Summary:
The goal of this action is to increase awareness and uptake of additional coverages available to address water damage for homeowners and renters. Pursuant to this action plan, DISB would draft new regulations and legislation, which if approved and passed, would require insurers providing homeowners’ or renters’ policies in the District to enhance their policy offerings either by offering endorsements or expanding coverage provisions directly within standard policies. Enhancements could include additional coverage for mold, water overflow, sewer back up, sump pump failure, and rapid accumulation of rainfall or groundwater.
Action Plans

Action Plan 2.2 – Develop Local Workforce to Perform Flood Related Repairs

Summary:
The goal of this action is to increase the local workforce available to perform flood related repairs after a flood. More trained workers means a more rapid response to customer requests to remove standing water and drying of homes inundated by flood water. Rapid response is critical to prevent expensive remediation related to damage and mold growth that can occur within 48 hours of a flood. Execution of this Action Plan would be dependent on successful implementation of Action Plans 1.7a, 1.7b, and/or 1.9b, to boost the number of homeowners or renters who have insurance to fund remediation.

Action Plan 3.1 – FloodSmart Homes

Summary:
The goal of this action is to make residential structures in flood prone areas more flood resilient through home upgrades via a program called “FloodSmart Homes.” If funded, the program would be open to all homes with flood risk, including the approximately 1,000 residential structures in the District’s 100-year and 500-year floodplains, as well as structures with interior flood risk that are not currently mapped into FEMA floodplains. In 2023, DOEE began a pilot program to provide a free home assessment to eligible residents, and then install resilience upgrades at little to no cost to the resident.
Action Plans

Action Plan 3.2 – Make it Safer for Residents Living in Basements

**Summary:**
The goal of this action is to draft new regulations, which if promulgated, will require landlords to advise their tenants of the danger associated with living in basements. This action also calls for relevant District agencies to conduct a public education campaign. Residents of basement apartments are at risk of being trapped in their apartment during inland flooding events, increasing the risk of drowning fatalities. In addition to creating awareness, this Action Plan would evaluate early warning technology options like water level sensors interlinked to smart alerts, as well as individual home flood sensors to warn residents of impending flood conditions and when to evacuate.

Action Plan 4.1 - Expand Backwater Valve (BWV) Installation Program

**Summary:**
The long-term goal of this action, known as the “Backwater Valve Program,” is to equip residences within the District of Columbia that are subject to flooding via reverse flow from sewers in a storm with Backwater Valves (BWV). During a major storm, streets and neighborhoods flood, and flood water can create enough pressure where sewage water comes out of toilets and drains if a BWV is not installed. If this program is approved and funded, the District would pay for the BWV installation in eligible homes.
Action Plans

Action Plan 4.3 - Require Backwater Valve Installation in Codes

**Summary:**
While Action 4.1 would help renovate existing District homes that do not have a BWV, this action would require that BWVs are installed on all new construction or substantial improvement of buildings in the District. The 2003 DC Building Code included the BVW requirement, but for this action item to be successful in the long-term, each subsequent code update would need to readopt the provision.

Action Plan 5.1 - Develop a List of Flood Infrastructure Projects

**Summary:**
The District government and associated federal, regional, and local partners have assembled a list of key projects that will be critical for mitigating flood risk for residents. In 2022, The Task Force developed a comprehensive list that includes project cost, timeline, and implementing agency. Each year, Task Force agencies will update the Infrastructure Projects list and prioritize items in the list prior to agency budget submissions.
Action Plans

Action Plan 6.1 - Update Floodplain Regulations

Summary:
This action calls for DOEE to propose updates to the District's Flood Hazard Rules (also known as floodplain regulations) to account for increased flood risk due to climate change. A current draft of the proposed updates includes expansion of regulatory jurisdiction to the 500-year floodplain, a new buffer zone for areas impacted by sea level rise, and a "no adverse impact" requirement for new development to not increase flood levels for existing properties. They also increase the District's Design Flood Elevation to match that specified by the 2017 DC Construction Codes.

Action Plan 6.6 - Process Improvements for Floodplain Review

Summary:
The goal of this action is to make improvements in how the Department of Buildings (DOB) and DOEE coordinate and execute local floodplain regulations so the District can remain in good standing with the National Flood Insurance Program (NFIP). Improvements, if funded, include better integration of floodplain requirements into the certificate of occupancy process, changes to the permit intake process to better capture interior work permits, and increasing DOB's capacity to inspect construction as it occurs to ensure buildings are designed according to the floodplain standards.
Action Plans

Action Plan 6.7 - Improve Federal and District Collaboration on Floodplain Management

**Summary:**
The goal of this action is to facilitate coordination between District and federal agencies on development within the floodplains, which includes land regulated by both federal and District agencies. Coordination is necessary because federal facilities are regulated by different standards compared to other non-federal property in the District. Washington, DC is unique in that consequences of flooding to federal assets affect the District and vice versa. The National Capital Planning Commission (NCPC) and DOEE have identified a number of opportunities to implement annually, including sharing data and models, coordinating on project review and design of large-scale infrastructure, and hosting interagency staff briefings.

Action Plan 6.8 - Update Real Property Disclosure Rules

**Summary:**
The goal of this action is to make prospective buyers of property in the District aware of its past flooding issues and the status of the property's flood risk mitigation infrastructure. Pursuant to this action plan, DOEE and DC Water would work with the Department of Licensing and Consumer Protection to draft amendments to regulations, which if promulgated, would require property sellers to answer questions about flood risk in the Real Property Seller’s Disclosure Statement and make the answers available to the prospective buyer.
Action Plans

**Action Plan 7.1 - Map Interior Flooding Locations**

*Summary:*
The goal of this action is to map the areas of the District that are vulnerable to interior flooding to identify neighborhoods that should be prioritized in flood resilience projects. While FEMA floodplain maps highlight areas at risk of coastal and riverine flooding, the maps do not identify locations with interior flood risk. DOEE's Integrated Flood Model, which is already underway but may require additional funds, is the primary way this action would be implemented. DOEE also intends to undertake a short-term mapping project to identify historically vulnerable neighborhoods. Lastly, Task Force agencies intend to work together to create a centralized place to track interior flooding complaints and map them.

**Action Plan 7.3 - Update Watts Branch FEMA Maps**

*Summary:*
FEMA maps for the Watts Branch area were last updated in 2010. Since then, DOEE and the US Army Corps of Engineers (USACE) have done additional modeling in the area as part of two independent projects and have developed models that were more accurate than the existing FEMA maps. The goal of this action is to update the FEMA maps for the Watts Branch area to more accurately reflect the latest data. DOEE intends to apply to FEMA for a Letter of Map Revision (LOMR) to officially update the FEMA maps, which are used to determine insurance requirements.
**Action Plans**

**Action Plan 7.4 - Update Oxon Run FEMA Maps**

*Summary:* FEMA maps for the Oxon Run area were last updated in 2010. Since then, DOEE and the USACE have done additional modeling in the area as part of two independent projects and have developed models that were more accurate than the existing FEMA maps. The goal of this action is to update the FEMA maps for the Oxon Run area to more accurately reflect the latest data. DOEE intends to apply to FEMA for a LOMR to officially update the FEMA maps, which are used to determine insurance requirements.

**Action Plan 8.1 - Update DC Silver Jackets MOU**

*Summary:* The DC Silver Jackets Team, composed of District, federal, and regional organizations, is dedicated to working collaboratively in developing and implementing solutions to flood hazards in the District. The team was first formalized in 2014 through an interagency Memorandum of Understanding (MOU) signed by 13 federal and District agencies. Since then, the team has expanded beyond these agencies and the goal of this action plan is to update the MOU to reflect the changes and renew commitment from participating organizations to collaborate on flood risk reduction efforts.
Action Plans

Action Plan 8.2 - Improvements to DC Drainage Committee Processes

**Summary:**
The goal of this action is to improve the D.C. Drainage Committee by developing a Memorandum of Agreement (MOA) between all participating agencies. The Drainage Committee is an informal body of government staff from several District agencies, namely the District Department of Transportation (DDOT), DOEE, DC Water, and DOB, that meets on an ad hoc basis to document, investigate, and find resolutions for flood and drainage complaints submitted by District residents. The recommended MOA would outline which agency is responsible in various drainage complaints, identify scenarios where private citizens are responsible, and establish clear communication protocols between agencies so that issues are efficiently and quickly resolved.

Action Plan 8.3 - Finalize Plans for P Street Levee Closure

**Summary:**
The goal of this action is to finalize a plan to erect a closure across 2nd Street SW, near the intersection of P Street SW, should forecasts predict a major riverine or coastal flood event in the District. Right now, there is no designated plan in place or specified agency responsible for ensuring the closure is in place. If not erected, large portions of Southwest DC could be flooded, including homes, public housing, and other critical facilities. This plan will outline a short-term solution to contract out the responsibility to build a sandbag levee closure, and a long-term solution to coordinate with the USACE on the design and construction of a more permanent levee closure structure.
Action Plans

**Action Plan 8.4 - Coordinate Yearly Public Outreach**

*Summary:*
Every year, multiple agencies like DOEE, HSEMA, and DISB conduct flood-risk-related outreach related to their programs. The goal of this action is to coordinate annual outreach efforts among the various Task Force Agencies via an annual meeting where agencies can identify the upcoming flood outreach campaigns, highlight opportunities to collaborate, and coordinate messaging.

**Action Plan 8.5 - Provide Additional Capacity via 311 to Help with High Call Volumes to DC Water**

*Summary:*
During flash floods, DC Water receives many calls from residents to report residential, business, and government properties being flooded. The number of calls received can overwhelm the staff of DC Water and create a higher risk of some residents not being able to reach anyone and/or not knowing who else to call. The goal of this action is to create a pathway for providing additional capacity via 311 to handle excess calls to DC Water during a flood event and for targeted damage assessment.
Action Plans

Action Plan 9.1 - Early Severe Weather Warning System for Residents

Summary:
The goal of this action is to implement a standardized early severe weather warning system that can be used to alert residents of potential impacts to life and property before they occur. The District of Columbia currently utilizes a centralized warning system – AlertDC – to communicate ongoing impacts with relevant stakeholders, including District residents. This action would leverage the existing AlertDC framework managed by the DC Homeland Security and Emergency Management Agency (HSEMA) and create new weather and flood related alerts to warn District residents before a flood.

Action Plan 9.2 - Update Emergency Flood Response Procedures

Summary:
The goal of this action is to coordinate flood response and recovery procedures, as well as agency roles and responsibilities, when flooding occurs. HSEMA, in coordination with other District agencies and quasi-governmental organizations, leads the District's preparedness planning, training, and exercise actions. This action would allow HSEMA to conduct emergency exercises to test coordination and communication of efforts related to the threat of flooding in the city, and HSEMA would make updates to its flood planning products based on the results and feedback from the exercises.
Action Plans

Action Plan 9.3 - Install Flood Signs and Sensors

Summary:
The goal of this action is to install weatherproof LED-enhanced warning alerts and remote flood sensors at flood prone areas in the District. The weather alert would indicate to commuters that a street is under high-water conditions and that an alternate route should be taken. The installation of remote flood sensors in those same identified areas would continuously report water levels. When water levels rise, the flood sensor could automatically send warnings in real time, via Alert DC, to residents and District response agencies that flooding has occurred in a particular area. The data from the sensors could also help calibrate the District’s various flood models to be more accurate.
Funding Options
FY23 & FY24 Budget

Current Project Funding
Implementing the Flood Task Force Action Plans would require funding in multiple agencies and for multiple programs and projects. Many of the Action Plan tasks have already been set in motion and agencies have secured funding in the current fiscal year 2023 and/or 2024 to carry out the work. Funding is from District agencies, including DC Water, and several federal agencies. There have been numerous funding applications from District agencies to federal agencies through formula funding and federal grant opportunities. Federal funding includes formula funds from FEMA’s Community Assistance Program (CAP) and Cooperating Technical Partners Program (CTP), Federal Highway Administration, Environmental Protection Agency’s Clean Water Construction Grants and grant funds from FEMA’s Building Resilient Infrastructure and Communities program (BRIC).

<table>
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<tr>
<th>Action Plan #</th>
<th>Ward</th>
<th>Resident Assistance</th>
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Infrastructure project budgets reflect projects already in design, such as the Cleveland Park Drainage and Stormwater Improvement project and DC Water’s Blue Plains Flood Protection. Agencies such as DDOT and DC Water have annual funding for infrastructure improvements. In FY23, projects are in the early phases or starting planning and design in priority flood mitigation areas, such as Southwest DC & Buzzard Point, Watts Branch, and Oxon Run. These lists were current as of January 2023 and funding will change as new opportunities become available and funding is awarded.

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<td>TBD</td>
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<tr>
<td>5.1</td>
<td>7</td>
<td>Kenilworth Park North/Watts Branch</td>
<td>DOEE</td>
<td>$800K</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.1</td>
<td>8</td>
<td>Oxon Run Stream and Wetland Restoration</td>
<td>DOEE</td>
<td>$2.6M</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.1</td>
<td>8</td>
<td>Blue Plains Flood Protection</td>
<td>DC Water</td>
<td>$1M</td>
<td>$14M</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Funding to implement the Action Plans is critical to the success of the Task Force. Some Action Plans can be accomplished without any extra funding. The majority, however, will require some additional funds. Deciding how to fund each action was beyond the scope of the Task Force, but the Task Force has prepared a menu of options to consider that are summarized on this page and explained in more detail in Appendix.

**Federal Funds**

- Bipartisan Infrastructure Law
- Inflation Reduction Act
- Other Federal Grants

Task Force member agencies are well informed of recent federal funding opportunities such as the Bipartisan Infrastructure Law and Inflation Reduction Act, and aim to seek as much federal grant funding as possible. It is likely though, that local or other private funds will be necessary as well. Options that the Task Force reviewed are detailed in the Appendix.

**Local and Alternative Funds**

- Appropriated Funds
- Environmental Taxes
- Public Private Partnerships (P3s)
- Stormwater Utility Fees
- Tax Increment Financing and PACE
- Private Philanthropy
Next Steps

Now that the report is complete, District agencies must begin the hard work of putting the actions in motion. The work will not be done overnight. It will take continued leadership, dedication, support, and a coordinated effort of individual agencies to increase our city’s resilience.

To keep the DC Flood Task Force accountable to our District partners, leaders, community members, and other stakeholders, DOEE and DC Water will do the following on a yearly basis:

- Provide progress updates on each recommended Action Plan in the Action Plan Hub
- Create a priority list of flood related infrastructure projects and include priority infrastructure projects in agency out-year budget requests
- Coordinate flood-related outreach efforts across individual agencies

Thank you to all who have attended Task Force meetings, commented on action plans, and provided input on ways to reduce our community’s flood risk over the past two years. We look forward to collaborating with you in the years to come as we implement this important work.
Glossary

Acronyms:

**BIL** - Bipartisan Infrastructure Law  
**DC CCCR** – District of Columbia Commission on Climate Change and Resilience  
**DCOP / OP** – District of Columbia Office of Planning  
**DCHA** – District of Columbia Housing Authority  
**DDOT** - District Department of Transportation  
**DISB** - Department of Insurance, Securities and Banking  
**DLCP** - Department of Licensing and Consumer Protection  
**DMOI** – Office of the Deputy Mayor for Operations and Infrastructure  
**DOB** - Department of Buildings  
**DOEE** – Department of Energy and Environment  
**FEMA** - Federal Emergency Management Agency  
**HSEMA** - Homeland Security and Emergency Management Agency  
**IRA** - Inflation Reduction Act  
**NPS** – U.S. National Park Service  
**OPC** - Office of Contracting and Procurement  
**USGS** – United States Geological Survey  
**USACE** – U.S. Army Corps of Engineers  
**WMATA** - Washington Metropolitan Area Transit Authority
Appendix 1

Establishing Letter

The letter sent by the City Administrator establishing the DC Flood Task Force is included on the next four pages. It is also available on the website at the following address:

Office of the City Administrator

TO: Designated Agency Directors – Voting Task Force Members

FROM: Kevin Donahue, City Administrator

DATE: September 23, 2021

SUBJECT: Establishing a Flood Task Force for the District of Columbia

Dear Directors,

The Office of City Administrator (“OCA”) is establishing a Flood Task Force (“Task Force”) for the District of Columbia and I have identified your agency as critical to help shape and implement the important work of the Task Force. To that end, please prepare to participate as a voting member of the Task Force. Below, I have outlined the purpose, scope, and membership of the Task Force. Also attached is a background document providing additional information on the need for a Task Force, progress on related topics to date, and ideas for the Task Force to consider. Agency Directors will be the primary point of contact for the Task Force, though a Director may delegate a subject matter expert from his or her agency to attend, participate, and vote for them on the Task Force. If you choose to do this, please confirm your delegate by October 1, 2021, by emailing Nick Bonard at Nicholas.Bonard@dc.gov.

Purpose:

Heavy rains on September 10, 2020, caused flooding in many neighborhoods in the District and affected hundreds of residents. It was the most recent example of the extreme wet weather events that have resulted in interior flooding and sewer-line backups in the District. Flood events and water damage will be more frequent and severe in the future due to climate change, and most of the areas in the District that are known to be at risk of flooding are inhabited by residents that are vulnerable and economically disadvantaged. The District needs to identify policies and projects that can adequately inform its residents about flood readiness while equitably protecting its residents and economy from the damage that floods can cause.

Although various agencies have analyzed flood risk and identified a range of potential actions the District might take to mitigate it, there is not yet a District-wide comprehensive plan for prioritizing, funding, and implementing such actions, identifying which agency or party is

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1 Here, the term “flooding” includes interior flooding and sewer backups.
responsible for implementing them. Creating such a plan will require the coordination of many different executive and independent agencies, as well as outside stakeholder groups. A Flood Task Force is needed to ensure that this coordination takes place, to develop a comprehensive, equitable action plan to address flood risk, and to educate and engage communities on issues of flood risk.

Administration:

The Task Force will report to the Deputy Mayor for Operations and Infrastructure (DMOI), who will also serve as a voting member, and be jointly co-chaired by the Director of the Department of Energy and Environment (“DOEE”) and the General Manager of the District of Columbia Water and Sewer Authority (“DC Water”), or their designees. The Task Force will operate according to the guidelines below.

Membership and Procedure

The Task Force shall comprise the following thirteen (13) voting members, or their designees:

1. Deputy Mayor for Operations and Infrastructure;
2. General Manager of the District of Columbia Water and Sewer Authority;
3. Director of the Department of Energy and Environment;
4. Director of the Homeland Security and Emergency Management Agency;
5. Director of the District Department of Transportation;
6. Director of the Office of Planning;
7. Commissioner of the Department of Insurance, Securities, and Banking;
8. Director of the Office of Risk Management;
9. Director of the Department of General Services;
10. Director of the Department of Parks and Recreation;
11. Director of the Department of Housing and Community Development;
12. Director of the Department of Public Works; and
13. Director of the Department of Consumer and Regulatory Affairs.

The Task Force shall consult with the following eleven (11) nonvoting consulting members, or their designees:

1. Director of the Office of Racial Equity
2. Director of the Mayor’s Office of Community Relations and Services;
3. Director of the District of Columbia Housing Authority
4. People’s Counsel of the Office of the People’s Counsel;
5. Chair of the Commission on Climate Change and Resiliency;
6. A member of the Apartment and Office Building Association of Metropolitan Washington;
7. A member of the District of Columbia Building Industry Association;
8. A representative of the Federal City Council;
9. A representative from National Park Service National Capital Region;
10. A representative from Federal Emergency Management Agency Region III; and
11. A representative from United States Army Corps of Engineers Baltimore District.

The Task Force shall meet at the joint call of the co-chairpersons. A majority of the voting members of the Task Force shall constitute a quorum for official action by the Task Force.

Functions

The Task Force shall identify equitable ways to reduce the risk of water damage from coastal, interior, riverine, and sewer back up floods in the District, as well as ways to reduce financial impacts of flooding on low- and fixed-income homeowners. In considering potential actions, the Task Force shall prioritize the protection of vulnerable populations, maintenance of the District’s affordable housing stock, increasing the District’s housing supply in a safe and resilient manner, supporting ongoing economic development, and mitigating disparities in real estate access and equity.

Within 12 months of the first meeting of the Task Force, the Task Force shall produce a report that includes an action plan for each of the following categories:

1. Flood and sewer line backup insurance;
2. Repairing flood damage in low-income homes and neighborhoods;
3. Flood proofing of individual homes and facilities;
4. Sewer line backups and backwater valve installation;
5. Flood mitigation infrastructure projects;
6. Regulations, legislation, compliance, and permitting;
7. Mapping and modeling;
8. Flood mitigation planning and coordination;
9. Flood emergency planning, response, and recovery; and
10. Any other category identified by the Task Force.

For each category in the preceding paragraph, the Task Force shall:

1. Identify at least one action to implement;
2. Assign a lead agency and a point of contact within the lead agency for oversight of implementation of each action;
3. Estimate costs and propose funding strategies for each action, taking into account equity, efficiency, practicability and timing, as well as the District’s debt cap and capital spending plan;
4. Prepare a proposed timeline for implementation of each action; and
5. Prioritize actions within and for vulnerable communities.

The final report shall constitute a single, integrated action plan that combines the action plans for each of the categories identified above. After the final report is completed, the Task Force shall continue to meet at least annually to track progress on the action plans and discuss budgeting for Task Force priorities that require funding, until the Task Force determines that the action plans have been fully or substantially implemented.
DOEE and DC Water will provide administrative and technical support to the Task Force. The Task Force may establish such subgroups, consisting of members or nonmembers, as it deems necessary to carry out the purposes of the Task Force and further a participatory process and outreach on proposed actions.

I appreciate the cooperation of all Task Force members in conducting this vital work and I look forward to interim status updates and the final report. I hope it will serve Mayor Bowser and future administrations as a guide to reducing flooding and flood damage in the District.

Best regards,

Kevin Donahue
City Administrator
Appendix 2

DC Flood Task Force Website

>> dcfloodtaskforce.org

The DC Flood Task Force
Preparedness and Prevention

Action Plan
Within 12 months, the Task Force will produce a report that includes an action plan for 9 categories.

Meetings
Task Force meetings will be held virtually. Check our meeting schedule and join us.

Resources
Search here for establishing documents, meeting minutes and other related resources.
Appendix 3

Digital Action Plan Hub

>> dcfloodtaskforce.org/action-plan-hub/

Action Plan Hub

Welcome to the DC Flood Task Force's Action Plan Hub. Here you can learn about the actions that the District of Columbia is taking to reduce flood risk in the city, and the Action Plans that were officially approved by the Full Task Force in 2022 and 2023. Click here to return to the DC Flood Task Force Home Page.

Action Categories

The Task Force is required by the City Administrator to develop at least one Action Plan for each of 9 Action Categories shown below.

- Flood Insurance
- Repairing Flood Damage
- Floodproofing
- Sewer Line Backups
- Flood Infrastructure
- Regulations and Permitting
- Mapping and Modeling
- Planning and Coordination
- Emergency Response

Action Plans

Initial ideas for Actions were provided in the Background Document as part of the Task Force Establishment. Through Action Team (sub-committee) meetings, public input, and Task Force direction, the Task Force has identified 27 Actions for District agencies to implement. Each Action Plan is listed below. Click any of the "Group by..." buttons at the top of the table to sort the actions in different ways.

Action Plan Lists
Funding Options

Federal Funds

Bipartisan Infrastructure Law
Inflation Reduction Act
Other Federal Grants

Recent federal funding opportunities such as the Bipartisan Infrastructure Law and Inflation Reduction Act, represent a historic opportunity to leverage federal funding to improve the District’s resilience. District agencies are well informed of these opportunities and will seek out as many federal funding opportunities as possible. Of the federal funds available, there are very few that can be used towards the actions in this report. Additionally, many of the federal grants require jurisdictions to match the federal funds. Thus, the local match requirement coupled with the limited federal funds available will make it necessary for the District to rely on local and private funding sources in addition to federal funds.

Local and Alternative Funds

Appropriated Funds

Operating and capital funds appropriated by the District are the most flexible funding source but must also be available to fund other priorities in the District budget. The District budget is required be balanced each year, and Flood Task Force priorities may not always translate into priorities that are able to be funded in the Districtwide budget. In addition, with respect to bond-financed capital funding, there are debt limits that the District cannot exceed.
Funding Options

Local and Alternative Funds (continued)

Public Private Partnerships

Per the District of Columbia Office of Public-Private Partnerships, this office “is charged with building collaborations between the private sector and District government to complete major infrastructure projects and other programs through long-term, performance-based procurements commonly referred to as public-private partnerships, or P3s.” It is also a non-traditional approach to funding projects that may not impact ongoing funds committed to other capital improvement plan projects. Another key consideration is that there must be a clear and guaranteed income stream identified to attract private investment in a P3 arrangement.

Tax Increment Financing and PACE

A tax increment financing (TIF) model or Property Assessed Clean Energy (PACE) model could be used to fund flooding projects. A TIF is a large-scale approach to funding projects that does not impact ongoing funds committed to other CIP projects. Additionally, TIFs require Council of the District of Columbia action.

Borrowing on the PACE model enables private property owners to pay for flooding infrastructure projects at long term, affordable fixed rates. Another consideration of PACE is that a private property owner is required to invest in the flood protection or mitigation project and this financing is secured via a lien on private property. The Task Force noted that the Office of the Chief Financial Officer is a key stakeholder to consult when discussing the viability and general terms of the PACE funding model to determine its practicality.

Environmental Taxes

When considering an environmental degradation tax (EDT) as a potential means to fund flooding prevention initiatives, the Task Force noted that taxes are a new and unencumbered source of revenue. An EDT could follow the carbon tax model. The Task Force also acknowledged, however, that these types of taxes target certain entities or industries. To that end, the Task Force considered whether the taxes could be practically and equitably shared throughout the targeted tax base. Additionally, the Task Force recognized that there are currently several taxes already imposed on the probable tax base.
Funding Options

Local and Alternative Funds (continued)

**Stormwater Utility Fees**

The Task Force also considered a stormwater infrastructure fee as a new source of income. Similar to the EDT consideration, the Task Force noted that a fee is a new revenue source and is therefore unencumbered. It, however, would be a new fee that residents would pay.

**Private Philanthropy**

The Task Force noted that private philanthropy and grants are a valued source of funding because they are a new revenue source without any expectation to repay. To that end, it is low risk and high benefit. However, entities that are interested in flooding infrastructure sustainability and investing in it would need to be identified. Often, however, this type of funding is only available for a certain amount of time and many of the projects or funds require reoccurring dollars for maintenance.
Funding Survey

The Flood Task force conducted a survey of the members to seek guidance on the best funding mechanisms to pursue.

The Task Force generated 19 responses from the following members:

- DC Commission on Climate Change & Resiliency
- DOB (formerly DCRA)
- Department of Public Works
- DMOI
- DISB
- DOEE
- Washington Gas
- DDOT
- Department of Parks and Recreation
- DC Water
- HSEMA
- Department of Housing and Community Development
- Apartment & Office Building Association of Metropolitan Washington
- ORM
- NCPC

The survey results were noted as follows:
Funding Survey

Which funding type is your agency best suited to facilitate?

Conclusion

Appropriated funds, bonds, and private philanthropy or grants are the funding types that most agencies are comfortable pursuing. Federal funding, although not explicitly included in the survey, also is a source of a funding that agencies generally have extensive experience with. It also appears that there is a slight difference on what the Task Force perceives the fund should prioritize and what will best prepare the public for flooding.

For instance, the fund survey prompt that focuses on the most important funding priorities resulted in the following: insurance, funding to supplement flood proofing, and funding blue green infrastructure. Juxtapose that with how the Task Force responded to the question about supporting residents and businesses for flood readiness. While infrastructure was one of the items that obviously could be funded by the bonds ranked highly in both survey questions, when it comes to how to best prepare residents and businesses the insurance piece was just outside of the top three ranked choices.

For that question – how to best prepare residents and businesses – it appeared that educational resources were important while that was fifth when considering general funding priorities. How to fund insurance was not clear through the survey results.
Appendix 5

Action Plans

There are one-paragraph summaries for each of the 27 approved Action Plans on page 8. The full version of each Action Plan is included in this Appendix starting on the next page. The plans that follow provide information on budgets and timelines that reflect the Task Force's best estimate of what it would take for each action to be implemented completely. However, as noted in the Executive Summary, the implementation of most Action Plans is subject to further reviews and approvals within DC government, and availability of funds.

To sort and view the list of Action Plans by lead agency, category, or status, please visit:

dcfloodtaskforce.org/action-plan-hub/
Overview and Implementation Strategy:

The District should consider participation in FEMA’s Community Rating System (CRS), a voluntary program that allows communities to earn flood-insurance discounts for policyholders. Higher discounts are earned through enacting floodplain management activities that exceed the minimum requirements necessary for participation in the National Flood Insurance Program (NFIP). The three goals of the CRS are reducing flood losses, facilitating accurate insurance rating, and promoting the awareness of flood insurance. Participating in the CRS program is not without cost – it would take one additional permanent staff position and substantial coordination among District agencies to collaborate and report on progress annually to FEMA to qualify for insurance discounts.

If the District were interested in participating in the CRS program, it would first need to apply to FEMA, and FEMA would conduct a Community Assistance Visit (audit) of the District’s floodplain management programs including records management and identify any homes in the floodplain that were not properly permitted through DOB and DOEE.

If the District’s application was accepted into the CRS, it must recertify its status every year by reporting on the activities and processes conducted by multiple District agencies in support of the CRS. The District must continue to implement its credited activities to keep its classification. Failure to properly document or engage in the promised activities would result in a lower rating or removal from the program. This would also lower or remove any flood insurance subsidy for the residents.

The benefit that attracts communities to the CRS the most is the reduction in flood insurance premiums for their residents and businesses. The dollar savings varies according to the CRS class of the enrolled community (Class 1 having the biggest premium reduction and Class 10 having the smallest), the number of insurance policies, and the amount of coverage purchased by each policy. In addition to the benefit of lower cost flood insurance, CRS floodplain management activities enhance public safety, reduce damages to property and public infrastructure, avoid economic disruption and losses, reduce human suffering, and protect the environment. For many communities, the CRS program has proven to be an effective motivator to continue implementing flood protection programs during the “dry years.”

Impacted City Ward/ANC:
- All Wards and ANCs.
- Every NFIP policy holder resident in the District.

Lead Agency:
- DOEE

Supporting Agencies, Roles/Commitments:
- FEMA - Conduct CRS review and site visit CAV
- HSEMA - Coordination with All-Hazard Plan
- DOB - Permitting and building codes
**Action Plan**

**Category 1 - Flood and Sewer Line Backup Insurance**

**Action 1.5 Join FEMA’s Community Rating System to Reduce Insurance Premiums**

- DISB - Communication around insurance policies
- Other Agency Partners with programs where CRS credit can be earned

**Background:**

**Impact of this Effort on Task Force Goal:**

- The effort would reduce the insurance premiums for residents who purchased an NFIP policy.
- The effort would enhance public safety, reduce damage to property and public infrastructure, and avoid economic disruption and loss.

**Historical Context:**

- In 2010, DOEE received a report to review the District’s ability to join FEMA’s CRS program and, if so, the level of credit the District could receive in each CRS series of activities and the District’s potential classification in the program.
- If the prerequisites are met, the District, in 2010, would have obtained a Class 7 rating by continuing floodplain management activities currently implemented by District staff. With an increased level of effort identified in the recommendations, the District could improve to a CRS Class 6, 5, or 4 rating; a Class 5 or 6 being the most realistic.
- At the time of the above mentioned report, if the District were a Class 7 CRS community, policy holders in the mapped floodplain would save an average of $394 every year in flood insurance premiums, for a total Districtwide savings of over $105,000.

**Equity:**

**How does this action prioritize equity and residents who are most impacted?**

The underlying reason for this action is to decrease the high cost of flood insurance, which is required by mortgage lenders on homes in the 100-year floodplain. This would have more profound impacts on low-income residents and residents in the floodplain, primarily found in Wards 7 and 8. Those wards contain 98% of all the single-family homes in DC’s 100-year floodplain. There are also many homes outside the 100-year floodplain that experience interior flooding, which could benefit from having cheaper flood insurance.
### Action Plan

**Category 1 - Flood and Sewer Line Backup Insurance**  
**Action 1.5 Join FEMA’s Community Rating System to Reduce Insurance Premiums**

**Timeline:**

**Actions to Decide if the District Should Join the CRS Program**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022-2023</td>
<td>DOEE</td>
<td>DOEE begins self-assessment of CRS savings and predicted class level to present to the Task Force. Assessment should include any projected costs to District and identify agency leads and responsibilities.</td>
</tr>
<tr>
<td>2023</td>
<td>Task Force</td>
<td>Vote on whether to join CRS program</td>
</tr>
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</table>

**Actions if the District Decides to Join the CRS Program**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DOEE</td>
<td>DOEE prepares a CRS application and sends it to FEMA Region III.</td>
</tr>
<tr>
<td>2024</td>
<td>FEMA</td>
<td>FEMA visits the community, conducts a Community Assistance Visit (CAV), and verifies status of each element for which the District is claiming credit.</td>
</tr>
<tr>
<td>2024</td>
<td>DOEE, DOB, DISB</td>
<td>DOEE, with assistance from DISB, DOB, and others, prepares final application package, including documentation for each credit, and two certifications signed by the Mayor.</td>
</tr>
<tr>
<td>2025</td>
<td>FEMA</td>
<td>12 months after initial visit, FEMA produces a verification report, and enrolls the District in the CRS Program. FEMA provides 4-month advance notice to insurance companies about the rate adjustment.</td>
</tr>
<tr>
<td>2026 and beyond</td>
<td>DOEE, DOB, DISB</td>
<td>Each year, a community must recertify that it is continuing to meet the prerequisites for its class and to implement the activities for which it has earned credit. The District must provide documentation as proof that each credit is currently being implemented and submit these reports annually. Information would come from multiple agencies but can be combined by DOEE. Cycle verifications, or audits, are conducted by FEMA periodically after the initial application.</td>
</tr>
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</table>
**Budget:**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Funding Source</th>
<th>Amount to be Requested</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DOEE</td>
<td>Local</td>
<td>In-Kind</td>
<td>DOEE would use staff time to analyze the costs and benefits of joining the CRS program.</td>
</tr>
<tr>
<td>2024 onward</td>
<td>DOEE</td>
<td>Local</td>
<td>$120,000</td>
<td>Staff salary and benefits for the CRS coordinator position at DOEE.</td>
</tr>
<tr>
<td></td>
<td>DOB</td>
<td>Local</td>
<td>In-Kind</td>
<td>CRS would take substantial effort from multiple District agencies in order to meet the strict reporting requirements. Staff time from these agencies is required for them to provide information to the CRS coordinator in support of recertification verifications. DOEE or the agency leading CRS would not be successful without full interagency District cooperation. Without this guaranteed full access to reporting needs, CRS will fail.</td>
</tr>
</tbody>
</table>

**Public Outreach and Input:**

**Past public outreach & engagement approach/actions:**
- N/A

**Current/future public outreach & engagement approach/actions:**
- If the District were to join the CRS, it requires a certain number of outreach activities per year in all wards of the District. This would align with the Flood Task Force Action Plan on Yearly Outreach.

**What were the Public Comments of relevance to this Action?**

*Public Comments on this Action Plan from Oct - Dec 2022*

- From the District of Columbia Commission on Climate Change & Resiliency: The Commission encourages the Task Force to pursue a course of action guided by the greatest benefit to disadvantaged communities with high current and future flood risks. This approach may result in the District not participating in the CRS program. Prior to dedicating the time and resources for the costly CRS certification, the Task Force should ascertain the barriers to obtaining flood insurance for residents and the degree to which a CRS discount would overcome those barriers.
From the District of Columbia Insurance Federation (DCIF):

1. The DCIF is aware of no reason why the District should not join FEMA’s CRS
2. DCIF concurs with the Task Force’s observations that CRS participation would benefit the District’s flood risk management far beyond just National Flood Insurance Program (NFIP) premium savings available through the CRS
3. The more District residents who participate in the NFIP, increases the overall value of CRS participation to the District
4. DCIF looks forward to any opportunity to work with the Task Force to increase District residents’ participation in the NFIP and private flood insurance marketplace.
Action Plan
Category 1 - Flood and Sewer Line Backup Insurance
Action 1.6 – Increase Insurance Outreach

Overview and Implementation Strategy:

The goal of this action is to implement an outreach plan to make individuals, groups and communities aware of the myriad of insurance programs that help DC residents control or mitigate potential flood related hazards. DISB has identified the following steps in their implementation strategy:

1. Identify the target market(s)
2. Create a targeted message and printed materials
3. Determine the channels and areas for distribution
4. Distribute materials and message
5. Evaluate the effectiveness of the plan

In addition to the steps involved in implementation, DISB has identified five goals:

1. Increase awareness of flood issues and provide information on available insurance options, programs and services.
2. Increase the number of flood policies issued by private insurers, water damage related endorsements, individuals with flood insurance, and alternative risk financing/sharing programs.
3. Collaborate with other agencies, stakeholders and interested parties to further research efforts; promote information and educational material that assists the community in understanding the benefits of flood insurance programs and how their involvement in the programs can increase sustainability; reduce premiums and future economic loss.
4. Implement or assist in the implementation of more flood insurance and alternative risk financing/sharing programs.
5. Establish criteria to determine effectiveness. Conduct quantitative and qualitative studies. Produce report.

Impacted City Ward/ANC:
- All Wards

Lead Agency:
- DISB

Supporting Agencies, Roles/Commitments:
- DOEE - Assists in the development, promotion and dissemination of information and materials
- HSEMA - Assists in the development, promotion and dissemination of information and materials
- DOB - Assists in the development, promotion and dissemination of information and materials
Action Plan
Category 1 - Flood and Sewer Line Backup Insurance
Action 1.6 – Increase Insurance Outreach

Background:

Impact of this Effort on Task Force Goal:
The effort would reduce cost and impact of flood damage to residents by encouraging them get flood insurance.

Historical Context:
• In research and analysis by the Flood Task Force and Action Teams, there was a general agreement that more outreach is needed to make residents aware of insurance options.
• The Flood Task Force determined a need to develop effective programs that provide more options to address flood hazards and implement effective outreach strategies to inform and educate the community.

Equity:

How does this action assist vulnerable communities?
The outreach would be targeted toward vulnerable communities in floodplains and would educate residents on insurance, which would protect them from bearing the cost of damages if flooding were to occur.

Timeline:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DISB, DOEE, HSEMA</td>
<td>Implementation and Promotion during Flood Week</td>
</tr>
<tr>
<td>2024 and beyond</td>
<td>DISB, DOEE, HSEMA</td>
<td>Promotion and Dissemination of Information on Insurance and Alternative Flood Coverage Options</td>
</tr>
</tbody>
</table>
Action Plan
Category 1 - Flood and Sewer Line Backup Insurance
Action 1.6 – Increase Insurance Outreach

Budget:

Total Estimated Cost: ~$4,000 to ~$8,000 per year

Long Term Budget Requirements: Outreach activity would require funding each year in perpetuity.

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Funding Source</th>
<th>Amount to be Requested</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022 - 23</td>
<td>DISB</td>
<td>Local Budget</td>
<td>~$4,000</td>
<td>Outreach materials</td>
</tr>
<tr>
<td>2024 - 27</td>
<td>DISB</td>
<td>Local Budget</td>
<td>~$8,000</td>
<td>Outreach materials</td>
</tr>
</tbody>
</table>

Public Outreach and Input:

Past public outreach & engagement approach/actions:
- Flood Week Promotion, Website Posting and Library Handouts – June 2022

Current/future public outreach & engagement approach/actions:
- Implement the outreach program as described in the Overview and Implementation Strategy section.

What were the Public Comments of relevance to this Action?

Public Comments on this Action Plan from Dec 2022
- From the District of Columbia Insurance Federation (DCIF):
  1. The Task Force is well served by coordinating this Action Item through DISB’s internal flood task force and DCIF will make every effort to support DISB as it develops its outreach program.
  2. DCIF is particularly impressed by the Task Force’s awareness of and focus on the growing private market for flood insurance. While the NFIP continues to provide the overwhelming majority of primary flood insurance coverage in the U.S., the private flood insurance market is often a helpful alternative for many policyholders and should be part of any outreach program.
  3. DISB and the Task Force are far better versed in the costs involved in implementing an outreach program; however, without knowing more detail, the amount allocated over five years seems low compared to costs allocated in other Action Plans.
Overview and Implementation Strategy:

Action Plans 1.7a and 1.7b are both designed to provide remediation assistance to low-income residents of the District after a water event causes damage to their home. In 1.7a, the program would handle claims under $3,500 via a grant payment. In 1.7b, the program would handle claims under $10,000 via partnership with an insurance company. The goal of this action, 1.7a, is to establish the Water Damage Remediation Grant Program to aid low-income eligible homeowners and renters who have suffered damage to personal property associated with a water intrusion event in the District of Columbia. Exact details of the program still need to be finalized, and if it is approved and funded, the general structure is described below. Further information is available in this Action Plan’s appendix.

The grant would be open to “Low Income” DC eligible and qualifying households to include single families and renters in a multi-unit dwelling. Grantees would receive, in the form of “coupons,” up to an aggregate value of services or products of up to $3,500 for damages caused by capacity-related, wet weather events or other clearly identified causes that result in surface water intrusion or area flooding. Grants would be available for residential properties and rental/leasing units for reasonable, documented losses or damages as specified in the grant program. The grant program would be on a first-come-first-served basis until the money is no longer available. Grant money not used would roll over or remain in the program. This program is not meant to cover extensive damage to properties and will not secure widespread coverage to address flood resiliency. This program is designed to quickly address remedial surface water issues and can be part of the initial step of a larger more comprehensive program.

Income eligibility would be established based on income/household size with the intent of covering the broadest number of District residents. Qualifying participants would receive information on flood insurance coverage, where to learn of preventative water intrusion techniques and information about supplies and other remediation and mitigation techniques and measures.

If other DC subsidized FEMA-NFIP opportunities, insurance coverage, or similar programs exist, participants would receive qualifying criteria, contact information, and/or enrollment links, etc. The program would provide services and products to use for remediation of personal property and not for mitigation of structural and foundation damage. Remediation services or products that are covered include dewatering, pump-out/dry-out efforts, removal and disposal of damaged property not attached to property, sandbags, tarps, dry vac, fans, dehumidifier, limited mold clean-up, disinfection, and the cost of emergency protection of damaged property that poses an immediate safety concern. Removal of carpets, drywall, appliances, heavy equipment, or furniture weighing over 50 lbs. are not covered.

Impact City Ward/ANC:

- All Wards
  - Income eligibility will be established based on income/household size with the intent of covering the broadest number of District residents.

Lead Agency:

- DISB
Action Plan
Category 1 – Flood and Sewer Line Backup Insurance
Action 1.7a – Water Damage Remediation Grant Program

Supporting Agencies, Roles/Commitments:
- DOEE – Develop and refine details of the program
- DC Water - Develop and refine details of the program
- TBD - Possible administrators of the program
- DC Council – Statutory and regulatory role

Background:

Impact of this Effort on Task Force Goal:
This proposal is aimed at getting immediate assistance or services to low-income qualifying District residents who have experienced a flooding event or flood loss due to a storm surge, flash flood, or other qualifying events. This program would allow impacted residents to receive immediate remediation services and/or material. The use of a remediation grant program has several advantages:

- Allows for immediate assistance and attention to be provided to affected residents and areas to address a flood or water intrusion damage event.
- Eliminates or reduces exposure from contamination and improves public health and safety.
- This program will be a line item and budgeted as a “standing program” accessible during a water damage event and/or a predetermined threshold of damage. A DC-funded reinsurance program could be used to back the grant program.
- The program has a defined cap and pre-determined budgeted amount; and
- Accountability is factored into the program by requiring the submission of pictures, videos, or other types of documentation.

Historical Context:
- In the Flood Task Force meetings and internal insurance department meetings, there was ongoing discussion and an understanding that there is a clear need to provide an alternative risk mechanism for affected groups that do not have insurance, inadequate insurance coverage, or insurance coverage that has been denied in addressing a flood event. It was understood that these groups are not likely to have the funds or resources to handle a flooding peril, and that quick measures are necessary for immediate remediation to prevent further damage to property and mold growth.
- DISB researched other remediation programs in Maryland, Massachusetts, and Virginia and met with local program administrators including those who run the Rockville, MD Flood Relief Program, and the Norwood Massachusetts Flood Damage Remediation Grant Program.
- DC Water previously implemented two temporary assistance plans for residents impacted by historically heavy rainfall in upper northeast DC and across the region on September 10, 2020, and in Bloomingdale in 2012.
- In internal flood task force meetings, there have been discussions and review of insurance and other alternative risk financing/sharing mechanisms – including captives, pooling, catastrophe bonds, a community approach, and a layered type of program approach.
Action Plan
Category 1 – Flood and Sewer Line Backup Insurance
Action 1.7a – Water Damage Remediation Grant Program

Equity:

How does this action assist vulnerable communities?
The program would provide immediate relief and services to low-income DC residents. This allows affected residents to address and reduce flood losses quickly, stay in their homes, maintain, and mitigate structural integrity and address safety concerns.

Timeline:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DISB</td>
<td>Conduct background research to estimate the number of eligible homes, staffing required to support the program, and metrics to determine program success. Collaborate with Rockville Md, Virginia, Baltimore City, or Massachusetts program coordinators/managers for assistance in developing and refining the District’s program. Develop legislation. Develop outline for requirement(s) and cost(s) of a feasibility study.</td>
</tr>
<tr>
<td></td>
<td>ORM</td>
<td>Collaborate with DISB developing a plan of action, a formative evaluation and implementation strategy, and in defining ORM’s role or other participants’ roles.</td>
</tr>
<tr>
<td></td>
<td>HSEMA</td>
<td>Collaborate with DISB on operation and possible funding opportunities</td>
</tr>
<tr>
<td>2024</td>
<td>DISB + Others TBD</td>
<td>Begin feasibility study and identify funding sources</td>
</tr>
<tr>
<td>2025</td>
<td>DISB + Others TBD</td>
<td>Establish, implement, promote, and roll out program.</td>
</tr>
<tr>
<td>2026</td>
<td>DISB + Others TBD</td>
<td>Conduct a process implementation evaluation of the program.</td>
</tr>
<tr>
<td>2027</td>
<td>DISB + Others TBD</td>
<td>Conduct an outcome effectiveness evaluation and impact evaluation and submit report.</td>
</tr>
</tbody>
</table>

Budget:

Total Estimated Cost: $50K initial for feasibility study; TBD for actual program implementation

Cost Breakdown by Phase/Action:
- $50K for formative evaluation (Initial)
- $TBD The process implementation, outcome effectiveness and impact evaluation report costs will be determined later. (Ongoing)
Action Plan
Category 1 – Flood and Sewer Line Backup Insurance
Action 1.7a – Water Damage Remediation Grant Program

**Long Term Budget Requirements:** If this program is implemented, it will require a fund balance every year that is large enough to cover the specified amount of insurance payouts. Some years no additional funding will be required (if there are no flood events) and in other years the fund will need to be partially or completely replenished.

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Funding Source</th>
<th>Amount to be Requested</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DISB</td>
<td>Local</td>
<td>$50,000</td>
<td>Feasibility Study</td>
</tr>
<tr>
<td>2024</td>
<td>DISB</td>
<td>Local</td>
<td>TBD</td>
<td>Funds for actual program implementation</td>
</tr>
<tr>
<td>2025</td>
<td>DISB</td>
<td>Local</td>
<td>$10,000</td>
<td>Implementation/Outreach</td>
</tr>
<tr>
<td>2026</td>
<td>DISB</td>
<td>Local</td>
<td>$15,000</td>
<td>Process implementation evaluation</td>
</tr>
<tr>
<td>2027</td>
<td>DISB</td>
<td>Local</td>
<td>$30,000</td>
<td>Outcome effectiveness evaluation and Impact evaluation – Report submitted</td>
</tr>
</tbody>
</table>

**Public Outreach and Input:**

Past public outreach & engagement approach/actions:
The District has hosted a number of events over the past few years around flood risk reduction where the topics of flood insurance and its affordability have come up.

- Faunteroy Community Enrichment Center and DOEE Resilience Workshops - held on the second Tuesday of each month since October 2021
- Three public outreach meetings regarding DOEE’s proposed updated Flood Hazard Rules – July and August 2021
- DISB Flood and Water Damage Forums in 2021
- DC Flood Task Force Public Listening Sessions – March 2022

Current/future public outreach & engagement approach/actions:
- If the program is implemented, DOEE will include information about the program in their annual mailer to flood prone properties. Qualifying participants will receive information on flood insurance coverage, where to learn of preventative water intrusion techniques and information about supplies and other remediation and mitigation techniques and measures.
- If other DC subsidized FEMA-NFIP opportunities, insurance coverage, or similar programs exist, participants will receive qualifying criteria, contact information, and/or enrollment links, etc.

What were the Public Comments of relevance to this Action?
- N/A
Appendix: Program Details

The exact details of the recommended program will likely change as more research is done and this gets closer to implementation. Below are some initial ideas on the how the program may be implemented.

**Causes of loss:**
A storm, heavy rainfall, public system malfunction that cause a public storm or drain/storm sewer backup, or a public underground water service pipe to be compromised, a dam/levy or retaining system to overflow the drainage capacity that contributes to a backup into private property.

**Conditions:**
All claimants must sign a release in a form approved by the District, before any coupon is provided. The release will preclude the District from all liability arising from services provided, product malfunction or liability from the sanitary sewer backup, water main break, and/or stormwater discharge. It will release the District from any future claims related to the incident. The release will further provide for additional conditions and limitations as and if needed.

If any insurance is available to the claimant to remediate the damage, the District reserves the right to pursue recovery for any coupon used to remediate damages other than an insurance deductible. In accepting the grant coupons, the claimant would agree to assist the District in its pursuit to recover benefit received under the Remediation Grant Program.

The District of Columbia will make no warranty for the work provided by any 3rd party service provider, or equipment, or materials purchased from the established list of vendors, equipment made available, or materials provided.

Qualifying participants will receive information on flood insurance coverage, where to learn of preventative water intrusion techniques and information about supplies and other remediation and mitigation techniques and measures.

If other DC subsidized FEMA-NFIP opportunities, insurance coverage, or similar programs exist, participants will receive qualifying criteria, contact information, and/or enrollment links, etc.

**Remediation Services or Products:** Dewatering, to include pump-out/dry-out efforts; removal and disposal of damaged property not attached to property; sandbags, tarps, dry vac, fans, dehumidifier, limited mold clean-up, disinfection, and the cost of emergency protection of damaged property that poses an immediate safety concern.

**Remediation Activities not covered:** Removal of carpets, drywall, appliances, heavy equipment or furniture weighing over 50 lbs.

**Program Exclusions:** No payment for loss or replacement of personal property, or indemnification for bodily injury, lost time/revenue from a home-operated business, ancillary expenses, reconstruction, or other improvements made to the property. Also excluded is landscaping, outbuildings, carpet replacement or replacement of furniture and furnishings, and damage to areas outside the home not related to the habitability of the structure.
Action Plan
Category 1 – Flood and Sewer Line Backup Insurance
Action 1.7a – Water Damage Remediation Grant Program

Covered Items: The program provides services and products to use for remediation of personal property and not for mitigation of structural and foundation damage.

Program Claim Prohibitions:
Losses caused by the failure of water and sewer lines owned by the claimant or landlord, or other private persons; water or sewage damages caused by negligence or failure to properly maintain the claimant’s utility system; water or sewage damages caused by failure of the claimant or landlord to take steps necessary to insure against further damage to the property once an incident has occurred; purposeful, malicious, or negligent acts, or acts otherwise outside of the District’s authority or influence. Floods as acts of God and capacity issues will remain covered.

Process:
• Affected claimants will initially call 311 to report their event and then be directed to an agency website or given a Department number to call to file an application/claim for relief.
• Claimants would register their claim by completing a DC-Water Damage Remediation Grant Assistance Application and uploading pictures or a short video of damage and any other requested information if required by the grant program.
• Once the claim has been registered, reviewed, and approved, a coupon dissemination/download approval would be made available.
• All qualifying participants will receive coupons with an aggregate maximum value of services or products of up to $3,500.
• A coupon will list participating remediation vendors, services, materials, and/or supplies.
• Property insured or covered against backups, flooding or capacity or similar events would not be eligible for the grant program. The District would reserve the right to subrogate or seek reimbursement.
• Vendors and suppliers who are on the list will submit a copy of a signed and authenticated coupon to the designated agency to receive payment.
• Participants will be processed, and a coupon will be made available within a 48-hour period.
• Participants will have up to 5 days to upload proof of loss and other qualifying documentation.
Overview and Implementation Strategy:

Action Plans 1.7a and 1.7b are both designed to provide remediation assistance to low-income residents of the District after a water event causes damage to their home. In 1.7a, the program would handle claims under $3,500 via a grant payment. In 1.7b, the program would handle claims under $10,000 via partnership with an insurance company. The goal of this action, 1.7b, is to provide immediate cash assistance to low-income District residents who experience a flood loss via flood insurance remediation. Exact details of the program still need to be finalized, and if approved and funded, the general structure is described below.

DISB would contract with a property and casualty insurance company licensed in the District to issue a specially designed group insurance policy to the Office of Risk Management (ORM). The policy would provide up to $10,000 of insurance coverage if HSEMA identifies that a single or multifamily owner occupied or rental covered property has experienced a flood loss from defined sources (e.g., river flood, flash flood, groundwater flood) with specific exclusions (e.g., sewer backup without a flood). The District would create a list of covered properties and an actuarial feasibility study to assist in the development of a sound price for the policy.

The master policy would identify the types of flooding losses covered (e.g., dewatering and pump-out/dry-out efforts, removal and disposal of damaged property and building materials, supplying sandbags, tarps and performing mold remediation and or repair or reconstruction of damaged property that poses an immediate safety concern). Certificates would be issued to all defined District low-income homeowners and renters with the total premium paid by the District government. Certificates would be issued/renewed each year following review of DC tax return data provided by the Office of Tax and Revenue (OTR) to identify District households meeting the low-income requirement.

Policy benefits would include an immediate payment of $2,000, without a need to show proof of loss once HSEMA has conducted an in-person review of the property and determined that a flood loss has occurred. The remaining $8,000 would be payable upon review of the loss by the insurer.

The $10,000 coverage amount is designed to allow the resident to purchase an NFIP policy with a $10,000 deductible and get the resulting premium reduction which may be offered in conjunction with a program to subsidize NFIP policies for low-income residents.

Impacted City Ward/ANC:
- All Wards

Lead Agency:
- DISB

Supporting Agencies, Roles/Commitments:
- DOEE – Support DISB in developing and refining details of the program
- HSEMA – Conduct on-site review of properties in the flood area to determine specific properties impacted by the flood event and report list to group insurance policy issuer.
- ORM – Act as holder of the group policy and monitor the program.
- OTR – Provide income data to identify low-income households.
Background:

Impact of this Effort on Task Force Goal:
This effort would provide immediate cash assistance to low-income District residents who experience a flood loss. This will allow impacted residents to pay for remediation to prevent further damage to their property. The use of a formal insurance program has several advantages:

- The $10,000 coverage level would enable the resident to purchase an NFIP policy with the maximum deductible and lowest premium.
- The cost would be more predictable than a program giving loans or grants as those payments would fluctuate based on the number of floods; the cost of this program would only vary by the number of eligible low-income households.
- The cost should be stable as the coverage is a fixed amount, which would allow for refinement of actuarial models over time.
- Using an insurance policy means there is an infrastructure in place for getting timely initial payments to covered households and adjusting the additional claims.
- The insurance company can be required to purchase reinsurance to address excessive losses.
- Certificates of coverage can be sent out annually to remind the households of the coverage.

Historical Context:
- In the Flood Task Force meetings and internal insurance department meetings, there was ongoing discussion and an understanding that there is a clear need to provide an alternative risk mechanism for affected groups that do not have insurance, inadequate insurance coverage, or insurance coverage that has been denied in addressing a flood event. It was understood that these groups are not likely to have the funds or resources to handle a flood peril, and that quick payout options are necessary for immediate remediation to prevent further damage to property and mold growth.
- DC Water previously implemented two temporary assistance plans for residents impacted by historically heavy rainfall in upper northeast DC and across the region on September 10, 2020, and in Bloomingdale in 2012.
- In internal flood task force meetings, there have been discussions and review of insurance and other alternative risk financing/sharing mechanisms – including captives, pooling, catastrophe bonds, a community approach, and a layered type of program approach.

Equity:

How does this action assist vulnerable communities?
The program would get cash into the hands of low-income residents with flood losses throughout the District quickly. This expedited process would allow them to address remediation issues to property, remain in their homes, and prevent further damage.
### Action Plan

**Category 1 – Flood and Sewer Line Backup Insurance**

**Action 1.7b – Water Damage Remediation Insurance Program**

#### Timeline:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DISB ORM</td>
<td>Engage consulting firm to conduct a feasibility study to look at establishing participation standards (definition of low-income), payment amounts (what payment amount should be set to address the expected need?) and expected premiums.</td>
</tr>
<tr>
<td>2024</td>
<td>DISB</td>
<td>Develop legislation, including pilot program</td>
</tr>
<tr>
<td>2025</td>
<td>DISB ORM DOEE</td>
<td>Roll out pilot program</td>
</tr>
<tr>
<td>2026</td>
<td>DISB ORM DOEE</td>
<td>Roll out full program</td>
</tr>
</tbody>
</table>

#### Budget:

**Total Estimated Cost:** $50K initial for feasibility study; TBD for actual program implementation

**Cost Breakdown by Phase/Action:**
- $50K for formative evaluation (Initial)
- $TBD costs for annual premium will be determined later. (Ongoing)

**Long Term Budget Requirements:** If this program is implemented, the District would pay an annual premium to an insurance company in perpetuity.

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Funding Source</th>
<th>Amount to be Requested</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DISB ORM</td>
<td>Local</td>
<td>$50,000</td>
<td>Feasibility Study</td>
</tr>
<tr>
<td>2024</td>
<td>ORM</td>
<td>Local</td>
<td>TBD</td>
<td>Pilot Program</td>
</tr>
<tr>
<td>2025</td>
<td>ORM</td>
<td>Local</td>
<td>TBD</td>
<td>Pilot Program</td>
</tr>
<tr>
<td>2026</td>
<td>ORM</td>
<td>Local</td>
<td>TBD</td>
<td>Full Program</td>
</tr>
</tbody>
</table>
Action Plan
Category 1 – Flood and Sewer Line Backup Insurance
Action 1.7b – Water Damage Remediation Insurance Program

Public Outreach and Input:

Past public outreach & engagement approach/actions:
The District has hosted a number of events over the past few years around flood risk reduction where the topics of flood insurance and its affordability have come up.

- Faunteroy Community Enrichment Center and DOEE Resilience Workshops - held on the second Tuesday of each month since October 2021
- Three public outreach meetings regarding DOEE’s proposed updated Flood Hazard Rules – July and August 2021
- DISB Flood and Water Damage Forums in 2021
- DC Flood Task Force Public Listening Sessions – March 2022

What were the Public Comments of relevance to this Action?

Public Comments on this Action Plan from Dec 2022

- From the American Property Casualty Insurance Association:
  
  This program would cover up to the “maximum” residential policy deductible ($10,000) for pre-qualified low-income property owners. The proposal indicates that the premiums would be paid by the District’s Office of Risk Management (ORM) for those that qualify, and the policy would be written on a group basis and an actuarily-based premium.

  While some insurers may be interested in “bidding” on this “group policy”, the variable is the number of certificates that would need to be issued for the group, as well as the potential claims frequency. While the maximum payout ($10,000) is not particularly high, one of the advantages that the DC Task Force has stated in support of this proposal is that it will reduce the overall cost of the NFIP. Since most losses are not “total” and, in fact, according to the NFIP, the average flood loss in 2021 was $44,401. That means that if there is a flooding event that affects one of these properties, the entire $10,000 amount would likely be payable. Thus, for the insurer if there’s any loss the full amount will be paid.

  Depending upon how many “certificate holders” there are, the cost to spread this risk through an insurance mechanism could be quite high. It would also depend upon the number of losses during any given period. In fact, since the ability to spread the costs associated with such an event would likely be spread over a relatively few low-income policyholders, the premium costs associated with such a program could be higher than premium deductible savings for each certificate holder, since the NFIP spreads the costs associated with flood losses nationwide. For example, if there are 1,000 certificate holders under the “group policy” and the “probable maximum loss” is expected for even 250 of those certificate holders in a year, the losses would be $2.5 million plus the administrative costs. Even if you were to leave the administrative costs out of the equation, that means the District’s ORM would need to pay roughly $2,500 for each of the 1,000 certificate holders to capitalize the amount needed for such an event.

  While this is an admirable approach, we’re not sure that this proposal would address the affordability issue for low-income property owners. It may be less expensive to subsidize the NFIP (or private) premium on an individual basis with the ORM working with the identified property owner to pay the difference in the premium between the standard NFIP deductible
($1,500 minimum) and the $10,000 amount. No matter the approach, a feasibility study would be essential to determine the appropriate costs associated with such a program and we support conducting such a study.

- From the District of Columbia Insurance Federation (DCIF):

  1. DCIF is concerned with the detailed, prescriptive nature of Action Item 1.7b. Development and implementation of a means-tested, first dollar, “mini-NFIP” for the District is an admirable, but logistically complicated goal. In addition to the actuarial complexities related to underwriting any such program and identifying an insurer willing and able to provide the coverage, the program, as proposed appears to blend traditional insurance coverage with parametric coverage in ways unlike any other product with which DCIF is familiar.

  2. DCIF strongly recommends Action Item 1.7b be revised to be less detailed until such time as more information is available about what is actually available in the marketplace and what parameters are best designed to meet the specific needs of the intended beneficiaries.

  3. As always, DCIF seeks to perform a constructive role in the District and not provide critique without offering robust input to assist the Task Force refine the ultimate goals of each Action Item. We look forward to working with the Task Force to refine Action Item 1.7b within the time constraints under which the Task Force is required to complete its work.
Action Plan
Category 1 – Flood and Sewer Line Backup Insurance
Action 1.9a – Home Insurance Water Damage Mitigation Credits

Overview and Implementation Strategy:

The goal of this program is to incentivize homeowners and renters to mitigate water damage and insurance losses by receiving premium discounts on their homeowner’s or renter’s policy when certain water intrusion prevention devices are installed in their homes. Insurers providing homeowners’ or renters’ policies in the District would be required to establish a premium discount program with water damage intrusion mitigation credits. Homeowners or renters would qualify for premium discounts when one or more of the following devices have been installed in the home:

1. Water Shut Off Devices [average cost of installation = $200.00 - $600.00; average cost of device = $100.00-$300.00]
2. Water Leak Sensors [average cost of installation = $0 - $200; average cost of device = $25.00 – $125.00]
3. Back Flow Devices [average cost of installation = $80.00 - $1,000.00; average cost of device = $100.00 - $250.00]

Insurers can provide additional mitigation credits (premium discounts) at their discretion when one or more of the following water intrusion protective devices have been purchased and/or installed.

Examples of optional mitigation credits:

1. Install permanent glass protection materials or flood proof windows
2. Install basement window protective covers
3. Purchase flood socks
4. Purchase sandless sandbags
5. Purchase and connect battery backups for sump pumps
6. Purchase utility flood covers
7. Purchase portable submersible water pumps and hoses

DISB intends to collaborate with all interested parties to develop the program and create legislation to establish a general criterion for a water intrusion mitigation credit premium discount program.

If established, DISB would send an informational memorandum to all residential property insurance companies instructing them to file a list of water intrusion prevention devices for which discounts are available with the Department through the SERFF system. Insurers would also be required to send the information to the insured. Additionally, insurers would be required to establish a method to verify that one or more devices were installed and continuously maintained.

Ultimately, the premium discount program would encourage flood mitigation devices in homes in the District through financial incentives to homeowners and renters.

Impacted City Ward/ANC:
- All Wards

Lead Agency:
- DISB
Action Plan

Category 1 – Flood and Sewer Line Backup Insurance
Action 1.9a – Home Insurance Water Damage Mitigation Credits

Supporting Agencies, Roles/Commitments:
- DOEE – Community education and information dissemination efforts
- HSEMA – Community education and information dissemination efforts
- DC Water – Community education and information dissemination efforts
- DC Council – Statutory and regulation role

Background:

Impact of this Effort on Task Force Goal:
- The premium discount program supports the overall goal of strengthening disaster resiliency. The program would be another important tool that provides incentives for DC residents to mitigate potential property damage.
- Water intrusion mitigation devices would proactively address possible flood damages which would reduce the cost of recovery, minimize flood damages to homes, improve public health and safety, and decrease the potential for filing an insurance claim.

Historical Context:
- In the flood task force meetings and in internal insurance department meetings, there has been an ongoing discussion and an understanding that there is a clear need to implement alternative strategies to support the District’s sustainability efforts by improving homeowner resilience. To that end, through many internal brainstorming and conceptualizing meetings, we arrived at a water damage mitigation credit—a premium discount proposal that would incentivize insured homeowners or renters to improve property resilience by installing water intrusion prevention devices and receive a reduction in the cost of their insurance.
- Discounts are not a foreign concept to the insurance industry. Many policyholders have recognized such premium discounts when security and sprinkler systems were installed.
- A mitigation credit program should work in concert with other programs to address a complex flooding concern. Programs could include FloodSmart Homes, or D.C. Back Water Valve Rebates that may offer funding or operational support.

Equity:

How does this action assist vulnerable communities?
This program would help residents in vulnerable communities reduce their insurance premiums and mitigate potentially costly property damage claims. While this Action would help all residents it may be especially useful for low-income communities who can least afford a damaging flood. This action could further address the most vulnerable communities by enabling low-income households to receive some other form of financial assistance toward purchase or installation.
**Action Plan**

**Category 1 – Flood and Sewer Line Backup Insurance**

**Action 1.9a – Home Insurance Water Damage Mitigation Credits**

**Timeline:**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DISB</td>
<td>Conduct feasibility study to determine how many households would need the financial assistance for the purchase and installation of the devices. Develop legislation requiring insurers to create a program that would provide discounts to DC residents who have installed water intrusion prevention devices. Develop legislation requiring insurers to inform insureds, at inception and at 1st renewal, when there is an update of all the water intrusion prevention devices for which credit is available.</td>
</tr>
<tr>
<td>2024</td>
<td>DISB</td>
<td>Send notice to all residential property insurance companies instructing them to electronically file their discounts with the Department via SERFF and to inform insureds, at inception and at renewal, of water intrusion prevention devices for which a premium discount is available.</td>
</tr>
<tr>
<td>2025</td>
<td>DISB</td>
<td>Process implementation evaluation to determine whether program activities have been implemented as intended.</td>
</tr>
<tr>
<td>2026</td>
<td>DISB</td>
<td>An outcome/effectiveness evaluation to measure how effective the program was in the target population and if the program satisfactorily met most of its objectives.</td>
</tr>
<tr>
<td>2027</td>
<td>DISB</td>
<td>Impact evaluation will be conducted to assess program effectiveness in achieving its ultimate goals.</td>
</tr>
</tbody>
</table>

**Budget:**

**Total Estimated Cost:** $165k for post implementation evaluations and reports

**Cost Breakdown by Phase / Action:**

- $15k for initial feasibility study and initial legislative proposals
- $150k in evaluations and reports from 2025-2027

**Long Term Budget Requirements:** None, as this is primarily a legislation and policy change which does not require budget. However, effective implementation may require the District to offset some of the costs of installing the flood proofing options which may be too expensive for low-income households.
Action Plan
Category 1 – Flood and Sewer Line Backup Insurance
Action 1.9a – Home Insurance Water Damage Mitigation Credits

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Funding Source</th>
<th>Amount to be Requested</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DISB</td>
<td>Local</td>
<td>$15,000</td>
<td>Legislation Development</td>
</tr>
<tr>
<td>2025</td>
<td>DISB</td>
<td>Local</td>
<td>$50,000</td>
<td>Process Implementation Evaluation</td>
</tr>
<tr>
<td>2026</td>
<td>DISB</td>
<td>Local</td>
<td>$50,000</td>
<td>Outcome Effectiveness Evaluation</td>
</tr>
<tr>
<td>2027</td>
<td>DISB</td>
<td>Local</td>
<td>$50,000</td>
<td>Impact Evaluation and Report</td>
</tr>
</tbody>
</table>

Public Outreach and Input:
Past public outreach & engagement approach/actions:
  • N/A

Current/future public outreach & engagement approach/actions:
  • Consumer outreach would be conducted to inform and educate the public on the details of the program.
  • Insurance companies would be responsible for informing their policyholders.

What were the Public Comments of relevance to this Action?

Public Comments on this Action Plan from Dec 2022
  • From the American Property Casualty Insurance Association:

    Providing discounts is something that can be reviewed for potential benefit. Historically, the amount of the discount is dependent upon that potential loss reduction, spread across a large group of similar risks. Thus, for these discounts/credits to be meaningful and encourage installation of the loss mitigation devices, a significant number of property owners would need to purchase and have them installed. It would, as the proposal suggests, require verification of not only the proper installation but, over time, show that they were effective in preventing or reducing losses.

    The proposal calls for legislation next year to mandate such discounts and, as far as we are aware, the work that is outlined to determine the scope and impact of this proposal in 2022 has not been completed. Therefore, we cannot support such legislation or this proposal without further discussion.

  • From the District of Columbia Insurance Federation:

    1. DCIF strongly discourages the Task Force from adopting Action Item 1.9a without first learning a great deal more about what, if any, related mitigation credits are currently available through insurers doing business in the District and how various mitigation measures
can be included in existing underwriting processes. Further, to the extent the mitigation measures identified in Action Item 1.9a actually mitigate risk, it is entirely possible underwriting practices already reflect such risk mitigation.

2. In the process of implementing the new Risk Rating 2.0 rating system, the NFIP, a program that has more than 50 years of expertise in flood and water damage mitigation, is encountering significant challenges quantifying and communicating mitigation credits that correspond to particular flood mitigation measures. If such a large, well established flood insurance program is struggling to quantify and communicate specific credits for specific mitigation measures, DCIF suggests that the Task Force and DISB will encounter similar challenges. For this reason, DCIF strongly encourages the Task Force not to adopt Action Item 1.9a in such a detailed, prescriptive form. Rather, DCIF recommends the Task Force refine this Action Item to identify the overarching goal and encourage DISB to work closely with the DCIF and all insurers providing the relevant lines of coverage in the District to determine how best to achieve that goal without altering established, time-tested underwriting methods.

3. Further, DCIF strongly discourages any proposal that would require insurers to “establish a method to verify that one or more devices were installed and continuously maintained” that is in any way different from existing insurer underwriting processes. Insurers often rely on captive and independent agents to gather necessary underwriting data and are not always in a position to verify the data provided, let alone verify that anything is “continuously maintained”. Shifting any such additional burdens on insurers could well negate any “savings” achieved by the specific mitigation measures in question.

4. While in no way endorsing this Action Item in its present form, DCIF questions the public policy rational behind excluding landlords and condominium associations from any version of Action Item 1.9a. Premium discounts that encourage adoption of mitigation measures lower the overall cost of housing for landlords’ tenants and condominium unit owners (including, me) just as much as they would for the owners of single-family residences.
Overview and Implementation Strategy:

The goal of this action is to increase awareness of additional coverages available to address water damage for homeowners and renters and the cost of that additional protection. The Enhanced Water Damage Coverage program would enhance a standard homeowners’ or renters’ policy either by offering endorsements or expanding coverage provisions directly within standard homeowner policies and, where applicable, within an HO-4 renters’ policy and HO-6 condo and co-op policies.

The program would require insurers to make available through endorsement any of these enhancements not already included in their policy:

1. $5,000 of additional mold coverage to include testing and removal.
2. Damage caused by water overflowing from a sewer, drain, sump pump or septic tank.
3. Water and Sewer Back Up from inside and outside drains.
4. Building ordinance or law coverage.
5. Recovery of expenses incurred by the resident for the installation of a certified back-flow valve and/or sump pump with a backup power system.
6. Water damage resulting from a malfunction of the sump pump.
7. $5,000 for damage caused by the unusual and rapid accumulation of surface rainfall that enters through basement windows, a crack in the basement floor or wall, or through the garage door.
8. $5,000 for damage caused by the unusual and rapid accumulation of groundwater or surface water that causes water to enter the home.

The insurers would have to provide each District homeowner’s and renter’s policy applicants with an opt-in for each enhancement not included in the policy, along with the cost for each. DISB will review the take-up rate and evaluate whether to switch to an opt-out model. While this will increase protections for District residents with homeowner’s or renter’s policies, it is not intended as a substitute for a flood policy.

Insurers would be responsible for:

1. Submitting policy changes, revisions, and updates through SERFF.
2. Providing notice about available enhancements at policy inception and at three renewal cycles.
3. Including illustrations and/or detailed scenarios about what is included and excluded in the enhanced coverage.

Insurers would have the option of requesting exemptions if justification and/or information regarding an extenuating circumstance is provided.

DISB would work with the insurance industry and all interested parties to develop an implementation strategy. All interested parties would be welcome to discuss, develop or revise tenets of the program and promulgate legislation to establish a general or complex criterion for the program’s operation.

Ultimately, the program would require residential property insurance companies to provide additional coverage for potential flood damage, reducing the cost of recovery for insured homeowners or renters.

Impacted City Ward/ANC:

- All Wards
Action Plan
Category 1 – Flood and Sewer Line Backup Insurance
Action 1.9b – Enhanced Water Damage Coverage for Homeowner’s Policies

Lead Agency:
- DISB

Supporting Agencies, Roles/Commitments:
- DOEE – Community education and information dissemination efforts
- HSEMA – Community education and information dissemination efforts
- DC Water – Community education and information dissemination efforts
- DC Council – Statutory and regulatory role

Background:
Impact of this Effort on Task Force Goal:
- The program supports the overall goal of strengthening disaster resiliency and sustainability. This would be another option for DC residents to improve property protection and address a wider cause of water damage.
- An Enhanced Water Damage Coverage Program has several advantages:
  - It creates more uniformity in marketed products.
  - Expands the availability and variety of product types.
  - Minimizes the catastrophic effects of a water related event on property, life, and health.
  - Allows customers to customize their insurance policy hazards typical to their dwelling.
  - Strengthens community, government, and insurance industry partnerships; and
  - Provides a more descriptive policy content.

Historical Context:
- In the Flood Task Force meetings and internal insurance DISB task force meetings, there has been an ongoing discussion and an understanding that we should develop a program that provides more water damage coverage options to DC residents. Providing more options supports the city’s initiative of sustainability and resiliency. The Water Damage Coverage Program will provide these options.
- Policy endorsements that enhance insurance coverage are not a foreign concept for insurers. Policyholders have recognized and purchased enhancement type coverage in the form of replacement value coverage, increased policy limits and home inflationary guard coverage.

Equity:
How does this action assist vulnerable communities?
This program would help residents in vulnerable communities enhance the benefits of their insurance plans and mitigate potential costly property damage claims. While not initially providing a specific benefit for vulnerable communities, as the expanded coverage options all would require additional premiums to be paid, in the future subsidies for low-income homeowners and renters may be considered.
### Timeline:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DISB</td>
<td>Develop legislation requiring pricing and make available policy enhancements or enhanced policy endorsements. Develop legislation requiring insurers to inform insureds, at inception and at three renewal cycles of product availability, cost, when there is an update, and of other requirements cited in the law.</td>
</tr>
<tr>
<td>2024</td>
<td>DISB</td>
<td>Send notice to all residential property insurance companies instructing them to electronically file their enhancements with the Department via SERFF and to inform insureds at policy inception and for three renewal cycles of the availability of the enhanced coverages. Program Implementation</td>
</tr>
<tr>
<td>2025</td>
<td>DISB</td>
<td>Process implementation evaluation to determine whether program activities have been implemented as intended.</td>
</tr>
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<td>An outcome/effectiveness evaluation to measure how effective the program was in the target population and if the program satisfactorily met most of its objectives.</td>
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<tr>
<td>2027</td>
<td>DISB</td>
<td>Impact evaluation will be conducted to assess program effectiveness in achieving its ultimate goals.</td>
</tr>
</tbody>
</table>

### Budget:

**Total Estimated Cost:** $150,000 (Post implementation evaluations and reports)

**Cost Breakdown by Phase / Action:**
- $0 for initial formative evaluation (conducted via market research) and initial legislative proposals (via staff time)
- $150k in evaluations and reports from 2025-2027

**Long Term Budget Requirements:** None, as this is primarily a legislation and policy change which does not require budget. However, effective implementation may require the District to offset some of the insurer’s costs in order for companies to provide coverage in the District, or subsidize the costs of the additional options which may be too expensive for low-income households.
Action Plan
Category 1 – Flood and Sewer Line Backup Insurance
Action 1.9b – Enhanced Water Damage Coverage for Homeowner’s Policies

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DISB</td>
<td>N/A</td>
<td>N/A</td>
<td>Legislation Development</td>
</tr>
<tr>
<td>2025</td>
<td>DISB</td>
<td>Local</td>
<td>$50,000</td>
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</tbody>
</table>

Public Outreach and Input:

Past public outreach & engagement approach/actions:

- N/A

Current/future public outreach & engagement approach/actions:

- Consumer outreach will be conducted to inform and educate the public on the details of the program.
- Insurance companies will be responsible for informing their policyholders.

What were the Public Comments of relevance to this Action?

Public Comments on this Action Plan from Dec 2022

- From the American Property Casualty Insurance Association:

  This proposal requires a mandatory offer, through an endorsement, and several options for “Enhanced Water Damage Coverage”. The proposal appears to require a combination of coverages that blurs the line between back-up of sewers or drains (that can be endorsed onto a HO-3, HO-4 or HO-6 type of policy now) and somewhat “related” flood losses by providing $5,000 for water entering the property through the basement or through the doors and windows of a home.

  APCIA does not support the “mandatory” offer of such coverage as it will likely result in market dislocation, will require development of rates/premiums for each of the eight options outlined and, depending upon the policyholder cost, may create affordability issues or result in a low number of policyholders purchasing the products. Again, a feasibility study will be required and must include discussions and/or participation by insurance companies.
From the District of Columbia Insurance Federation:

1. Mandatory “make available” requirements are not necessarily commercially viable for all insurers writing the relevant lines of coverage in the District. Even though Action Item 1.9b, allows for insurers to request exemptions, as currently drafted, this Action Item could fundamentally alter the homeowners and related marketplaces in the District.

2. Even for those insurers for whom mandatory “make available” coverage requirements may be commercially viable, if the Task Force were to adopt this Action Item in its currently, very detailed, prescriptive form, the Task Force must include a requirement that DISB approve initial and future rates that correspond to the risk. Absent such a requirement that DISB approve initial and future adequate rates for any mandatory “make available” coverage requirements, DCIF could well be forced, reluctantly, to oppose any legislative or regulatory implementation of this Action Item.
Action Plan
Category 2 – Repairing Flood Damage
Action 2.2 – Develop a Local Workforce to Perform Flood Related Repairs

Overview and Implementation Strategy:

The goal of this action is to increase the local workforce available to perform flood related repairs after a flood. More trained workers mean a more rapid response to customer requests to remove standing water and drying of homes inundated by flood water. Rapid response is critical in order to prevent expensive remediation related to damage and mold growth that can occur within 48-hours of a flood. Execution of this Action Plan is dependent on successful implementation of Action Plans 1.7a, 1.7b and 1.9b, to ensure homeowners or renters have insurance to fund remediation. Once new insurance programs are in place and more residents have coverage, DC Water and other District agencies would partner with local groups and nonprofits (such as Howard University, University of DC, DC infrastructure Academy, DC Sustainable Utility, and the DC Water Works Program) to provide training and pathways for residents to become part of a flood repair workforce.

Impacted City Ward/ANC:
- All Wards

Lead Agency for Implementation within DC Government:
- DC Water

Supporting Agencies, Roles/Commitments:
- DOEE – Program Design Assistance
- DISB – Insurance Program that funds the immediate response

Background:

Impact of this Effort on Task Force Goal:
- The effort supports providing immediate relief after a flood that attenuates the health and hygiene aspects related to flood and minimizes remediation costs.

Historical Context:
- There were reports of homes flooded during the Sept 10, 2020, event that had water damage in basement that was not remediated for weeks.
- The first 48 hours after water damage are critical to prevent growth of mold and significantly more expensive remediation efforts later.
- The primary issue that emerged from the September 2020 event was that several homeowners did not have insurance – this is addressed in Action Plans 1.7 and 1.9.
- Once funding is in place to pay for remediation related to future storm related flood events, a secondary issue surfaces; an adequately trained local work force that can mobilize rapidly and meet the 48-hour post flood time frame for water removal and drying.
Equity:
How does this action assist vulnerable communities?

Residents who are most vulnerable to flooding would be able to remediate flood damage within 48 hours, significantly reducing the chance of costly flood damage repairs, health issues, and displacement. These issues would be most damaging to low-income communities.

In a flood event, the impact is on an entire neighborhood versus a single home. This creates multiple requests for remediation that will overwhelm regional capacity that is based on a non-flood projection of workload. This capacity limitation impacts the ability to respond and remediate within the 48-hour time frame. The resulting deluge of requests likely results in larger lucrative projects being prioritized over smaller ones like the single-family homeowner and residents on fixed income. This action would help alleviate staffing as a constraint for timely response to the single-family and fixed income homes.

Timeline:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DISB/ORM</td>
<td>Develop and Implement Insurance Related Action Plans described in 1.7a, 1.7b and 1.9b</td>
</tr>
<tr>
<td>2024</td>
<td>DISB/ORM</td>
<td>Develop and Implement Insurance Related Action Plans described in 1.7a, 1.7b and 1.9b</td>
</tr>
<tr>
<td>2025 and beyond</td>
<td>DC Water / DOEE</td>
<td>Partner with local schools and organizations and guide development of curriculum that would result in a workforce ready to perform flood related repairs.</td>
</tr>
</tbody>
</table>

Budget:

Total Estimated Cost: N/A (Staff Time)

While costs to District agencies would be limited, the success of the program relies on local partners receiving continuing grant funding (from nonlocal sources).

Public Outreach and Input:

Past public outreach & engagement approach/actions:

- N/A

Current/future public outreach & engagement approach/actions:

- N/A
What were the Public Comments of relevance to this Action?

Public Comments on this Action Plan from Dec 2022

- From the American Property Casualty Insurance Association:

  This proposal addresses emergency efforts to remove the water following a storm/flooding event. While we would support efforts to have a local workforce ready when events do occur, as the proposal states, the key to its success “is contingent on an insurance vehicle being implemented that will pay for the remediation.” The proposal further states that:” Having a large section of the population covered by insurance in case of a flood, is an incentive for the Professional Remediation companies to participate in and hire staff from this training program.”

  We would state that the first part of this last sentence is the critical part of any of these proposals. The number of NFIP or private flood policyholders in D.C. is small. Before there are mandates of new programs, additional insurance discounts, and mandates of coverage; there needs to be more purchase of the products that are currently available to property owners in the District of Columbia. If the District is willing to provide standard HO-3, HO-4, HO-6 and flood insurance (NFIP or private) purchase assistance for low-income property owners or renters, that should be the first step.

  Once there’s a significant portion of the property in the District with coverage that is available, then a more comprehensive look at where there are gaps can be undertaken. While we understand the discussions of the Task Force have been ongoing for almost a year, there’s a lot more that needs to be done. Insurance companies need to be part of these discussions, the feasibility studies for each of these proposals need to be completed, a significant push must be made for consumers to purchase existing products, and an approach (perhaps a modified version of Action Plan 1.7b) undertaken related to affordability developed.
Overview and Implementation Strategy:

The goal of this action is to make all residential structures in flood prone areas more flood resilient through home upgrades via a program called “FloodSmart Homes.” The program would be open to all homes with flood risk, including the approximately 1,000 residential structures in the District’s 100-year and 500-year floodplains, as well structures with interior flood risk that are not currently mapped into FEMA floodplains. Because of limitations associated with FEMA grant funds being used to cover a portion of the cost of FloodSmart Homes, initial priority would be given to homes in the 100-year floodplain. Long-term, the goal is to make all structures that have flood risk (including multifamily housing and businesses) more flood resilient.

As there is a wide variation in the existing level of flood protection at each home, the immediate goal is to provide free resilience assessments of these homes to determine which retrofit measures are most needed and would be most cost-effective. Measures that would be considered as part of the assessments include low-complexity interventions (i.e., replacing standard electrical outlets with GFCI models), moderate-complexity interventions (i.e., elevating electrical panels, HVAC equipment), and high-complexity interventions (i.e., whole-home elevation). Options such as voluntary property acquisition would also be considered. Ultimately, the assessment results can be leveraged to support applications for FEMA Hazard Mitigation Assistance grants that would provide additional funding for retrofit work, in addition to local funds that can be used to pay for recommended resilience upgrades.

Impacted City Ward/ANC:

- Wards 2, 3, 4, 6, 7, 8 all have homes in a floodplain, but the initial focus would be on Wards 7 and 8 as 98% of single-family homes in the 100-year floodplain are located in those two wards.
- All wards that have experienced interior flooding would also benefit as homes with recent floods would be eligible to participate, including in Ward 5 which saw significant interior flooding during recent events.
- In future years, after the Integrated Flood Model develops maps showing areas with interior flooding risk, DOEE can target outreach to those areas so they are aware of their eligibility for FloodSmart Homes.

Lead Agency:

- DOEE

Supporting Agencies, Roles/Commitments:

- HSEMA – HMA grant coordination.
- DOB – Permit review.
- ServeDC – Program Managers for CERT
**Action Plan**

**Category 3 – Flood Proofing Individual Homes and Facilities**

**Action 3.1 – FloodSmart Homes**

**Background:**

**Impact of this Effort on Task Force Goal:**

- The effort would directly support the flood proofing of individual homes.

**Historical Context:**

- Residents expressed concerns about the cost of flood protection retrofit measures during outreach events regarding the proposed updated Flood Hazard Rules in summer 2021. Many asked if the District government had funding available to assist with protecting their homes from flooding.
- DOEE has commissioned three research reports from the Cadmus Group regarding case studies of similar retrofit programs, the costs and benefits of retrofit measures, and the social equity implications of flood risk in the District to inform which retrofit measures should be focused on and the relative cost as well as equity and income factors to consider in program design.
- The FloodSmart Homes concept is informed by the retroFIT program in Charlotte/Mecklenburg County, NC, the FloodHelp NY program in New York City, and the Cook County, IL Residential Resiliency Program.
- It is also informed by DOEE’s successful RiverSmart Homes program, which offers incentives to District of Columbia homeowners interested in reducing stormwater pollution from their properties.

**Equity:**

**How does this action prioritize equity and residents who are most impacted?**

Keeping in mind the goal of this program is to make every home with flood risk more resilient, initial funding of this program would prioritize those that are most at risk of flooding, and those living in historically disinvested communities, two groups that often overlap.

- Wards 7 and 8 contain approximately 99% of all the single-family homes in DC’s 100-year floodplain.
- Approximately 66% of housing units in Census tracts that include the flood-prone areas of Wards 7 and 8 are rented, and over 55% of the households in those areas are paying rent that exceeds the 30% of gross household income that HUD defines as affordable housing.
- Data from the American Community survey indicates that in Wards 7 and 8 the average adjusted family income is $62,281 and $52,422, respectively--compared to the entire District’s average of $139,260.
- Over 90% of the residents in these wards are Black, compared to fewer than 50% of District residents overall. Within Wards 7 and 8, the highest concentration of people living in the floodplain are disproportionately located in Census Tracts with the greatest density of people of color.
- Each of the Census tracts bordering the Watts Branch floodplain in Ward 7 and the Oxon Run floodplain in Ward 8 is ranked as having a high or moderate-to-high level of vulnerability to disasters by the Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI). The median SVI Score of Census tracts in Wards 7 and 8 intersecting 100-year floodplains is 0.829, while the District as a whole has a median SVI of 0.5029.
Action Plan
Category 3 – Flood Proofing Individual Homes and Facilities
Action 3.1 – FloodSmart Homes

- The program should be designed so that renters in structures owned by landlords (who may not reside in the building) can still benefit from increased flood resilience offered by this program.
- The program should use many forms of outreach to spread the word, as not all DC residents can be reached via email and other digital tools.

Timeline:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>DOEE</td>
<td>Use FEMA funds to hire a contractor to do initial resilience assessments; Prepare an RFP/RFA so that physical upgrades can begin in FY23.</td>
</tr>
<tr>
<td></td>
<td>HSEMA</td>
<td>Apply for Hazard Mitigation Assistance grant funding.</td>
</tr>
<tr>
<td>2023 thru 2031</td>
<td>DOEE</td>
<td>Sign a contract/grant that would install retrofits at residential structures. Supervise grant/contract work.</td>
</tr>
<tr>
<td></td>
<td>HSEMA</td>
<td>Apply for Hazard Mitigation Assistance grant funding.</td>
</tr>
<tr>
<td></td>
<td>DOB</td>
<td>Review permits for retrofit work.</td>
</tr>
</tbody>
</table>
Action Plan
Category 3 – Flood Proofing Individual Homes and Facilities
Action 3.1 – FloodSmart Homes

**Budget:**

**Total Estimated Cost:** $31,000,000 over 10 years ($3.1 million per year)

**Cost Breakdown per Retrofit:**

<table>
<thead>
<tr>
<th>Description of Retrofit</th>
<th>Per Home</th>
<th>Total (50 Homes a year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Resilience Assessments</td>
<td>$3,670</td>
<td>$183,500</td>
</tr>
<tr>
<td>Whole Home Elevation (25% Local Match for FEMA Grant)*</td>
<td>$250,000</td>
<td>$250,000</td>
</tr>
<tr>
<td>GFCI Outlets</td>
<td>$45</td>
<td>$2,250</td>
</tr>
<tr>
<td>Weather Radios</td>
<td>$55</td>
<td>$2,750</td>
</tr>
<tr>
<td>Water Alarms</td>
<td>$15</td>
<td>$750</td>
</tr>
<tr>
<td>Elevation Certificates</td>
<td>$500</td>
<td>$25,000</td>
</tr>
<tr>
<td>Sump Pumps</td>
<td>$2,500</td>
<td>$125,000</td>
</tr>
<tr>
<td>Wet Floodproofing (Flood Vents)</td>
<td>$3,300</td>
<td>$165,000</td>
</tr>
<tr>
<td>Fill Basement/Cellar</td>
<td>$9,700</td>
<td>$485,000</td>
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<tr>
<td>Wet Floodproofing (Overall)</td>
<td>$11,100</td>
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<tr>
<td>Elevation of Electrical Equipment</td>
<td>$12,100</td>
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<tr>
<td>Grantee Administration Costs</td>
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</tr>
<tr>
<td>Staff Salary</td>
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<td>$121,769</td>
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<tr>
<td><strong>TOTAL</strong></td>
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<td><strong>$3,081,901</strong></td>
</tr>
</tbody>
</table>
Action Plan
Category 3 – Flood Proofing Individual Homes and Facilities
Action 3.1 – FloodSmart Homes

Long Term Budget Requirements: The cost per home for various upgrades is shown above, as well as an estimated yearly program cost of ~$3.1 million. This plan provides sufficient funding to accomplish each measure at 50 homes in the District every year, but in reality, not all homes will need every retrofit. It is likely that the yearly allotment of funds could help more than 100 homes each year. DOEE will be better able to estimate future funding requirements after completing the first year of work in FY23.

<table>
<thead>
<tr>
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<th>Amount to be Requested</th>
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<td>2022</td>
<td>DOEE</td>
<td>Federal (CAP/CTP)</td>
<td>$63,000</td>
<td>Home resilience assessments</td>
</tr>
<tr>
<td>2023 thru 2027</td>
<td>DOEE</td>
<td>Local</td>
<td>$2.6 million</td>
<td>Home resilience assessments and minor to moderate retrofits</td>
</tr>
<tr>
<td></td>
<td>DOEE</td>
<td>Federal (CAP/CTP)</td>
<td>$63,000</td>
<td>Federal Grants to pay for home resilience assessments.</td>
</tr>
<tr>
<td></td>
<td>HSEMA</td>
<td>Federal (HMA)</td>
<td>$300,000</td>
<td>Federal Grants to pay for home resilience assessments.</td>
</tr>
<tr>
<td></td>
<td>HSEMA</td>
<td>Federal (HMA)</td>
<td>$400,000</td>
<td>Federal Grants to pay for major home retrofits (elevation and mitigation reconstruction).</td>
</tr>
</tbody>
</table>

Public Outreach and Input:
Past public outreach & engagement approach/actions:
DOEE has hosted a number of events over the past few years around flood risk reduction where the topic for making homes more flood resilient has come up.

- Outreach letter with survey prompt – December 2021
  - Nearly 50 residents with homes in the 100-year floodplain have indicated interest in resilience assessments.
- Faunteroy Community Enrichment Center Resilience Workshops - held on the second Tuesday of each month since October 2021
- Three public outreach meetings re. proposed updated Flood Hazard Rules – July and August 2021
- DC Flood Task Force Public Listening Sessions – March 2022
**Action Plan**

**Category 3 – Flood Proofing Individual Homes and Facilities**

**Action 3.1 – FloodSmart Homes**

**Current/future public outreach & engagement approach/actions:**

- Ongoing Faunteroy Community Enrichment Center Resilience Workshops - held on the second Tuesday of each month
- Canvassing in flood prone areas beginning Fall 2022, efforts ongoing – canvass once a month through duration of the project
- Tabling at community events – beginning Spring 2023 and continue through duration of the project
- Advertisements in local newspapers
- FloodSmart Homes Informational Webinar – February 2023

**What were the Public Comments of relevance to this Action?**

*Proposed Updated Flood Hazard Rules Workshops*

- “…I don’t know if we can fight the waters of this tributary, but I do know the District can afford to shuffle some of that money from development/condo incentives to homeowners who need to RAISE UP THEIR HOUSE.” - Ward 7 Resident
- “Why isn’t this [retrofitting homes] the responsibility of the city?” – Rev. Gilbert, Ward 7 Resident
- “Honestly, it sounds like DC Water and the city acknowledge that infrastructure is aging, and climate change is increasing and yet have made no significant moves to help long-time residents EOTR [East of the River] …” – Ward 7 Resident

*DC Flood Task Force Public Listening Sessions*

- “If the govt. could provide resources...to help with the flooding, that would be helpful. Also, could the govt. give people $500 to help with flood issues or at least provide long-term no interest loans to help people with the financial impacts?”
- “Can you discuss what happened to the expired Flood Assistance Fund Program mentioned by CM McDuffie in the past Flood and Climate Resilience hearing? Any chances of that being rekindled?”
- “Will the city help seniors on fixed incomes to cover the installation of those measures...?”
- “There needs to be a community response team specifically aimed at flooding in neighborhoods, and I think the priority area where 87% of homeowners [in the floodplain are located] should get priority attention.”

*Public Comments on this Action Plan from July/Aug 2022*

- From the DC Commission on Climate Change and Resilience: The Commission supports the goal of retrofitting homes for flood resilience located in the 100-year and 500-year floodplains. In select individual cases, it may be more prudent to offer voluntary property acquisition as an eligible use of the program funding, with similar programs in the State of New Jersey and North Carolina serving as models. Additionally, the program should be designed to safeguard against subsidizing investor-owned rental properties and target owner-occupied homes in a manner that is equitable to residents of the District of Columbia.
Action Plan
Category 3 – Flood Proofing Individual Homes and Facilities
Action 3.1 – FloodSmart Homes

- From the Sierra Club: Concerning Flood Proofing Individual Homes and Facilities; Action 3.1 – FloodSmart Homes, the stated long-term goal is to make all residential structures that have flood risk (including areas with interior flood risk that are not currently mapped into FEMA floodplains) more flood resilient. This action does not specify how outreach about flood risk reduction measures can be tailored to landlords who may not reside in the home or building they rent out. How can this action be refined to aid renters and encourage landlords to prioritize and adopt nonstructural flood proofing if they do not otherwise take advantage of the program?

Sierra Club accepts that this plan for “FloodSmart Homes” is targeted to floodplains for 100 and 500 year floods. However, the nature of 100 and 500 year floods means that they present both a lower probability of occurring than interior flooding, which has a higher risk of occurring, is more pervasive, and presents an overall greater risk to a higher number of residents. Recent flooding resulted from the effects of what were characterized as 10 and 25 year storms. For this reason, interior flooding of neighborhoods, homes and businesses should be a high priority plan. Reports are that DOEE is collecting data and modeling causes of interior flooding, but that no findings are expected before 2024. When interior flooding is occurring now, annually, it does not seem a prudent decision to be first planning for sea level rise and increased flooding to occur in the 100 and 500 year time horizon. DOEE should be prioritizing and expediting its flood planning for the interior.

- There were two comments from residents who expressed urgency in needing floodproofing work done at their house and their inability to pay for the work that needs to be done without government assistance. One resident also expressed that the District must do a better job of outreach to neighborhoods where internet access is not a given.
**Overview and Implementation Strategy:**

The goal of this action is to establish requirements for landlords to advise their tenants of the danger associated with living in basements combined with a public education campaign from relevant District agencies. Residents of basement apartments are at risk of being trapped in their apartment during inland flooding events, increasing the risk of drowning fatalities.

In addition to creating awareness, this Action Plan would work together with Action Plans 9.1 and 9.3 to pilot early warning technology options like water level sensors interlinked to smart alerts, as well as individual home flood sensors to warn residents of impending flood conditions. Ultimately, residents would be more aware of the risk associated with living in basements and possible warning systems that would alert basement dwellers when they need to evacuate their apartments.

**Impacted City Ward/ANC:**

- All Wards

**Lead Agency for Implementation within DC Government:**

- DOEE

**Supporting Agencies, Roles/Commitments:**

- DC Water
- DHCD
- DPW
- OTA
- DOB
- DDOT
- HSEMA
- DISB
- OCTO

**Background:**

**Impact of this Effort on Task Force Goal:**

- The effort is designed to raise awareness of owners, landlords, and tenants occupying basement dwellings to the dangers when a major rain event like a hurricane is anticipated over the District.

**Historical Context:**

- While homes were flooded during September 10, 2020, cloud burst, the storm was transient and did not have the sustained precipitation capacity like Hurricane Ida. However, the damage resulting from the Sept 10, 2020, storm was a preview of the damage potential had it lingered over the District like Hurricane Ida did in the Northeast.
- In September 2021, a year after the Sept 10, 2020, unnamed storm that was the impetus for this Task Force, the impact of Hurricane Ida reverberated through NY and NJ. Unlike the coastal damage from storms like Hurricane Sandy, Ida resulted in inland flooding similar to what the
District experienced on September 10, 2020. The flooding that resulted from the remnants of hurricane Ida in the Northeast resulted in 43 documented fatalities in New York, New Jersey, Pennsylvania, and Connecticut. Many of these fatalities were due to drowning from being trapped in basement apartments.

- There is no known instance of fatality within the District related to basement flooding. However, in Rockville, MD, which is only a few miles outside the city boundary, a flash storm on September 1, 2021, resulted in the drowning of a basement resident and near drowning of several others.
- Rain associated with Hurricane Ida resulted in the 43 fatalities in the northeast United States, many of whom were basement dwellers. These two tragedies have flagged basement apartments as a drowning risk when the right circumstances converge.

**Equity:**

*How does this action assist vulnerable communities?*

Basements apartments are often the most affordable rental spaces. Protection of residents who live in basement dwellings is primarily protection for the economically disadvantaged population in the District.

**Timeline:**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DHCD, DOB</td>
<td>Mandate notification of flood risk to basement renters of dangers during sales and execution of leases.</td>
</tr>
<tr>
<td></td>
<td>DISB, DOEE, HSEMA, DC Water</td>
<td>Include education on dangers on basement inundation when conducting public education on Insurance Instruments or Flood Awareness materials.</td>
</tr>
<tr>
<td></td>
<td>HSEMA, DOEE, DC Water, DDOT, OCTO</td>
<td>Research sensor technologies and notification systems at vulnerable locations to provide advance warning of flooding</td>
</tr>
<tr>
<td>2024 and beyond</td>
<td>DISB, DOEE, HSEMA, DC Water</td>
<td>Continue to include information on flood risk in basements on communication materials.</td>
</tr>
<tr>
<td></td>
<td>HSEMA, DOEE, DC Water, DDOT, OCTO</td>
<td>As part of Action Plans 9.1 and 9.3, pilot sensor technologies and notification systems at vulnerable locations to provide advance warning of flooding</td>
</tr>
</tbody>
</table>
Action Plan
Category 3 – Flood Proofing of Individual Homes and Facilities
Action 3.2 – Make it Safer for Residents Living in Basements

Budget:
Total Estimated Cost: N/A

Modifications of regulations and educational material would be done with staff time or as part of existing outreach budgets. Costs for sensors and notifications are identified in Action Plan 9.3.

Public Outreach and Input:

Past public outreach & engagement approach/actions:
- N/A

Current/future public outreach & engagement approach/actions:
- A public education campaign from relevant District agencies would be conducted to warn residents of the danger associated with living in basements.

What were the Public Comments of relevance to this Action?
- N/A
Action Plan
Category 4 – Sewer Line Backups and Backwater Valve Installation
Action 4.1 – Expand Backwater Valve Installation Program

Overview and Implementation Strategy:
The long-term goal of this Action, known as the “Backwater Valve Program,” is to equip residences within the District of Columbia who are subject to flooding via reverse flow from sewers in a storm with Backwater Valves (BWV). During a major storm, streets and neighborhoods flood, and flood water can enter manholes resulting in surcharging them to street level. The effort is designed to prevent homes with plumbing fixtures below the upstream manhole rims from being flooded as a result of reverse flow through the sewers in storms. In particular, the effort is designed to provide backwater valves where plumbing fixtures in these homes were installed prior to 2003 when it was not mandated by code.

There are existing programs to install BWVs for free in the Bloomingdale area and areas that documented floods after the Sept 10, 2020, floods, but many residents that are vulnerable to reverse flow flooding are unable to apply for free BWV’s due to their location. In view of the demand for BWVs and limitation on the criteria for accessing the funds for the existing programs, DC Water is working with HSEMA applied for a FEMA grant to expand the BWV installations.

Funding in the current request is not anticipated to cover all homes within the District and prioritization criteria would be applied to ensure equity in this effort. Since the request may not cover all homes, Equity indices developed for the Lead-Free DC Program would be adopted here to prioritize installation.

Impacted City Ward/ANC:
• All Wards in the City

Lead Agency:
• DC Water

Supporting Agencies, Roles/Commitments:
• HSEMA – Expanding the program would be paid for through federal HMGP funding. In partnership with DC Water, HSEMA would be developing the grant application and submitting for federal funding.
• DOEE – Continued Public Education on role of Backwater Valves in Flooding
• DOB – Continued support to include BWV requirements in code updates
• DISB – Continued Public Education on the role of Backwater Valves in minimizing Flood Damage

Background:
Impact of this Effort on Task Force Goal:
• This effort supports backwater valve installations to prevent homes with plumbing fixtures below the upstream manhole rims from being flooded as a result of reverse flow through the sewers during storm events.
Historical Context:

- The basement plumbing fixtures in majority of the homes in the combined and separate sewer areas of the District are below the top of the manhole and subject to flooding in a storm related to reverse flow when sewers are surcharged. In recognition of this potential, the building code starting in 2003 required that any fixture installed below the rim of the upstream manhole should have a backwater valve in the line.

- Sewers in the city were not sized for the storm intensities that have been seen recently and are projected to get more intense over time. As a result, the sewers are surcharged frequently. If a home is connected to a surcharged sewer at an elevation below the surcharged water surface, and without the protection of a backwater valve, the contents of the surcharged sewer will flow backwards into the home and flood it.

- The September 10, 2020, storm showed that separate sewers under high storm conditions and flooded streets, have inflow into the sewers that create surcharge conditions with implications similar to a combined sewer system when a backwater valve is not installed as required.

- After the 2012 Bloomingdale flood, BWVs were provided at no cost to homeowners in a limited area within the combined sewershed that flooded in 2012 and had historically flooded in the past. This provision was in effect until the construction of water quality related combined sewer overflow (CSO) tunnel extended to provide relief for Bloomingdale and adjacent areas of the city was complete and fully operational. This is an ongoing effort with a stated completion date of mid-2023 which marks completion of the Anacostia section of the Clean Rivers tunnel. The completion of this section of the tunnel marks the end of the BWV program in the Bloomingdale area.

- After the Sept 10, 2020, storm when separate sewer areas of the city flooded, DC Water’s Board of Directors approved emergency funding up to $1.5M to install BWV in the combined and separate sewer areas of the city that had documented flooding related to reverse flow from the sewers related to the September 10, 2020, storm.

Equity:

How does this action assist vulnerable communities?

The Equity approach being developed for Lead Free DC Program would be applied here for consistency in approach.

- Typically, this would prioritize homes occupied by residents with limited income and in areas of the District with high Area Deprivation Index as defined by the Health Resources and Service Administration.

- Even if a resident qualifies for a free BWV, plumbers require payment in advance, and there is a population who cannot front the payment and wait on reimbursement from DC Water. The Program would include an option where in exchange for being listed on the web site and guarantee of payment from DC Water, the plumber installs the BWV without charging the homeowner and directly bills DC Water on completion of work.
Timeline:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>DC Water</td>
<td>Select contractors to join the program to install the BWV with guarantee of payment from DC Water and without charging the homeowner. Work with DSLBD on contractor outreach.</td>
</tr>
<tr>
<td></td>
<td>HSEMA</td>
<td>Apply for grant funding for expanded program.</td>
</tr>
<tr>
<td>2023</td>
<td>DC Water</td>
<td>Analyze Databases on Homes and prior BWV requests to estimate number of homes that may require BWV. Apply Equity Indices to establish priorities. Develop required Benefit Cost Analysis (BCA) for FEMA funding request.</td>
</tr>
<tr>
<td></td>
<td>HSEMA</td>
<td></td>
</tr>
<tr>
<td>2024-2025</td>
<td></td>
<td>Execute BWV Installation Progress and apply for additional funding based on demand.</td>
</tr>
<tr>
<td>2026+</td>
<td></td>
<td>Apply for additional funding to expand the Program</td>
</tr>
</tbody>
</table>

Budget:

Total Estimated Cost: $3,162,600 for this Phase and $2,213,820 requested Federal Share. The historical Average Cost of BWV Installation was $5,613 in FY 2022.

Long Term Budget Requirements: Anticipated funding request is to cover the next three years and develop data for future installation. Funding would be revisited in FY 26 based on this study.

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Funding Source</th>
<th>Amount to be Requested</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023 thru 2026</td>
<td>FEMA/HSEMA</td>
<td>Federal (HMA)</td>
<td>$2.2 million</td>
<td>Home resilience assessment and minor to moderate retrofits.</td>
</tr>
</tbody>
</table>
Public Outreach and Input:

Past public outreach & engagement approach/actions:
- DC Water web site
- DC Flood Task Force Public Listening Sessions – March 2022

Current/future public outreach & engagement approach/actions:
- Initial outreach would prioritize neighborhoods identified by equity indices
- DC Water would develop plain language education materials to help homeowners identify if they have a backwater valve already

What were the Public Comments of relevance to this Action?

DC Flood Task Force Public Listening Sessions
- “Have you done an assessment of (who has backwater valves) all the homes in the floodplain in Wards 7 and 8? As it relates to the backwater valve? I don’t think people generally know if they have a backwater valve. How do you define minimal cost to resident?”
- “Will any of these programs to help residents financially be retroactive to those that have previously experienced floods. Also, programs like the back flow prevention valve need to be offered in a way that DC pays the contractor. We shouldn’t have to come out of pocket several thousand dollars in advance and then have to apply for reimbursement.”
- “I had a backwater valve installed last week by Jiffy Plumbing. I just submitted my backwater valve paperwork to Emanuel Briggs 5 minutes ago. I am a single mother and I hope that I won’t have to wait months in order to receive my reimbursement of $5,450.”

Public Comments on this Action Plan from Sept/Oct 2022
- From Brenda Lee Richardson, Coordinator for Anacostia Parks & Community Collaborative:
  - Will HSEMA funding cover all 1000 homes in the floodplain areas under this program?
  - Is there a map that identifies all homes built before 2003 that do not have BWBs and what is the total number of households? What measures are being taken to secure additional funding to ensure that BWVs are installed in all homes in the database to prevent surcharge conditions especially in areas that fall within the Area Deprivation Index?
  - I applaud the equity measure to assist vulnerable communities by charging DC Water for the BWV installation rather than the homeowner.
  - I think it is important to ensure that there is a viable number of qualified minority contractors to do the BWV installation as well.
  - I struggle with Action Plan item to “Execute BWV Installation Progress and apply for additional funding based on demand.” Why based on demand rather than to ensure that all homes in DC are fully equipped with BWVs?
  - Public Outreach ~ It would be helpful to post this information on civic association websites. Also consider a banner on the Mayor’s station that runs at the bottom of the screen regularly encouraging homeowners to sign up for the program. You could also do a public service announcement.
Overview and Implementation Strategy:

The long-term goal of this Action is to require structures within the District of Columbia, which are subject to flooding via reverse flow from sewers in a storm, to install Backwater Valves (BWV) on new construction and substantial improvements.

The 2000 version of the International Plumbing Code was the first version to recognize that if the plumbing fixture is below the upstream manhole rim, the fixtures need to be protected by a backwater valve to prevent reverse flow from sewers if they are surcharged during a storm.

DOB completed adoption of the 2000 IPC Codes in 2003 and enhanced them with specific provisions that enhance their application that are re-adopted as each revision of the IPC is incorporated through Rulemaking.

This Action Plan confirms the need to continue readoption of these modifications.

Impacted City Ward/ANC:

- All Wards in the City

Lead Agency:

- DOB

Supporting Agencies, Roles/Commitments:

- FEMA – Review and approval of proposed regulations for NFIP compliance.
- DOEE and DC Water – Advise on changes and coordinate with DCMR Flood Hazard Rules

Background:

Impact of this Effort on Task Force Goal:

- The effort supports regulation requiring installation of backwater valves where applicable in homes built or retrofitted in accordance with code requirement for BWV, thereby directly supporting individual homes from being flooded through reverse flow from sewers if they are surcharged during a storm.

Historical Context:

- Beginning in 1999, the District of Columbia adopted the 1996 International Mechanical Code and 1995 International Plumbing Code (IPC). Prior to this date, the District followed the BOCA Code for Plumbing. The 1995 IPC required the use of sumps and ejectors where building drains were below sewer level but did not account for surcharged sewers. Requirements to install backflow prevention devices (also known as backwater valves) were introduced in the 2000 IPC code and adopted in 2003.
Action Plan
Category 4 – Sewer Line Backups and Backwater Valve Installation
Action 4.3 – Require Backwater Valve Installation in Codes

- The current DC Construction codes are the 2017 District of Columbia Construction Codes, which were adopted and became effective on May 29, 2020. The 2017 DC Construction Codes consist of the 2015 International Code Council (ICC) family of model codes, the 2014 National Electrical Code, and 2013 ASHRAE 90.1, as amended by the District of Columbia Municipal Regulations (DCMR) Title 12, Sections A through M.
- DOB and the CCCB routinely update the DC Construction Codes every few years to adopt the latest International Building Codes, as well as any amendments specific to the District of Columbia that the District wishes to include. The CCCB commenced a new code development cycle in early 2021 based on the 2021 ICC model codes, ASHRAE 90.1-2019 and the 2020 National Electrical Code.
- As part of this process to update the DC Construction Codes, the CCCB has approved an amendment to the International Building Codes to require the installation of backwater valves by amending section 712.3.5 and section 715 in the International Plumbing Code.
- The updates described above are tentatively scheduled to go into effect in 2023.

Equity:
How does this action assist vulnerable communities?
Backwater flooding is something that can happen anywhere in the District, but when it does occur, it will have greater impacts for low-income residents who are least able to handle the costs of repair and clean up. By requiring all new construction and substantial improvement to include backwater valves, we are ensuring that the residents would be protected from this type of flooding – including future residents who are low-income.

Timeline:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DOB</td>
<td>Adopt the 2021 Construction Codes and amendments, which include requirements for backwater valve installation.</td>
</tr>
<tr>
<td>2024 and beyond</td>
<td>DOB</td>
<td>The Plumbing Technical Advisory Group in charge of submitting proposals and amendments for code adoption to the CCCB Construction Code Coordination Board, stays current on the need to update the change with every review cycle.</td>
</tr>
</tbody>
</table>
Action Plan
Category 4 – Sewer Line Backups and Backwater Valve Installation
Action 4.3 – Require Backwater Valve Installation in Codes

Budget:
Total Estimated Cost: $0.00

None – DOB expects any costs associated with implementation of this Action would be absorbed by staff time.

Long Term Budget Requirements: None anticipated.

Public Outreach and Input:
Past public outreach & engagement approach/actions:
- N/A

Current/future public outreach & engagement approach/actions:
- Updating the Construction Codes requires a lengthy public input process via Technical Advisory Groups and formal meetings of the CCCB. More information on that process, which is already underway can be found here: https://DOB.dc.gov/service/construction-codes-coordinating-board.
- Once proposed changes are made, a final version would be released for public comment in the DC Register.

What were the Public Comments of relevance to this Action?

DC Flood Task Force Public Listening Sessions
- Multiple residents in Task Force Listening Session and other public meetings described their experience with backwater flooding, causing thousands of dollars in damage, and environmental hazards. This type of flooding could easily have been prevented if the homes had a backwater valve installed.

Public Comments on this Action Plan from Sept/Oct 2022
- From Brenda Lee Richardson, District Resident and Coordinator for Anacostia Parks & Community Collaborative (APACC):

  Public Outreach & Input ~ This section is very complex and difficult for a layman to understand. Efforts should be made to schedule at least one virtual townhall meeting to explain to everyone so that we all clearly understand the terms and actions. Overall, this particular plan was challenging to read with all the Code requirements.
Overview and Implementation Strategy:

The District government and associated federal, regional, and local partners have assembled a list of key projects that are critical for mitigating flooding and flood risk to residents. These capital projects, taken as a whole, will strengthen the resilience of the District to flooding.

While each agency has many projects that pertain to flood resilience, a comprehensive list has never been assembled nor evaluated for cost, timeline, and ownership. During the Flood Task Force process in 2021-22, agencies pulled together a list of current and proposed projects, along with their rough cost, lead agency, and broad timeline.

This Action Plan serves as the collection of the key capital projects. The next steps are to (a) Prioritize these projects based on agreed-upon criteria (including geography, cost, timeline, and equity considerations) and (b) Determine funding sources to implement each project.

Impacted City Ward/ANC:
- Capital projects span all Wards across DC

Lead Agency:
- DOEE will be responsible for leading (minimum) once annually inter-agency project prioritization and infrastructure list management.
- This process will be held in coordination with Flood Task Force agencies. Project ownership will vary based on each projects’ scope.

Supporting Agencies, Roles/Commitments:
- DDOT, DPR, OP, DCHA, HSEMA, DC Water, NPS, WMATA, and USACE will all support DOEE in keeping the infrastructure project list up to date annually with projects, costs, and timelines.

Background:

Impact of this Effort on Task Force Goal:
- This action is critical to ensuring that the physical infrastructure in the District is able withstand major floods, protecting both the infrastructure itself and those located in at-risk areas during flooding. These projects, if implemented, could save lives and prevent millions of dollars in damage, while also shoring up important infrastructure assets owned by a variety of agencies across the District. They form the core of the District’s physical resilience strategy, and implementation would be shared across agencies, organizations, and levels of government.

Historical Context:
- The District of Columbia has a long history of flooding, dating back to the 19th century, including riverine, tidal/coastal storm surge, and interior flooding. District agencies and organizations have for decades worked to implement key large-scale infrastructure projects that support flood resilience to (both standalone and as part of other projects). Some of these projects can be seen through the District government’s Capital Improvement Plans and DC Water’s Capital
Action Plan
Category 5 - Flood Infrastructure
Action 5.1 – Develop a list of capital projects to reduce flood risk

Improvement Dashboard. These projects have proven critical in minimizing lives lost and property damaged.
• However, there is extensive work acknowledged to remain, particularly as we see greater frequency and severity of floods in the future with climate change. To that end, the Flood Task Force determined the need to assemble a comprehensive, aligned, and quantified effort to implement flood resilience infrastructure at scale via large capital projects.

Equity:

How does this action assist vulnerable communities?

Many of the District’s lowest-income areas are in the 100- or 500-year floodplains, putting those with the least ability to withstand economic shocks at the highest risk of being flooded. This action will prioritize using DC’s infrastructure dollars on communities vulnerable to flooding by protecting their resources and space. Additionally, it will allow critical resources (such as food, water, and energy) and emergency response to still access these communities when they are flooded, minimizing their disproportionate risk of catastrophic flooding emergencies.

Project Overview and Timeline:

See more detailed list for all projects here.

Locally Led Projects: Below are locally led projects that will be key in helping make DC flood resilient. Just because a project is locally led does not mean that it will necessarily rely on local funding for implementation. Most of the projects identified below will ultimately require non-local funding sources, as noted in the Funding Source column.

<table>
<thead>
<tr>
<th>Infrastructure Project</th>
<th>Lead Agency</th>
<th>Earliest Construction Start</th>
<th>Cost Estimate</th>
<th>Funding Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeast Boundary Tunnel**</td>
<td>DC Water</td>
<td>2017</td>
<td>&gt;$100M</td>
<td>DC Water / Ratepayers</td>
</tr>
<tr>
<td>Canal Road Culvert (159-C) Replacement**</td>
<td>DDOT</td>
<td>2023</td>
<td>&lt; $10M</td>
<td>FHWA / Local</td>
</tr>
<tr>
<td>Cleveland Park Drainage and Stormwater Improvement*</td>
<td>DDOT</td>
<td>2025</td>
<td>$10-25M</td>
<td>Federal / Local</td>
</tr>
<tr>
<td>SW Buzzard Point Flood Resilience Infrastructure (Lansburgh/King Greenleaf Park)*</td>
<td>DOEE</td>
<td>2024</td>
<td>$50-75M</td>
<td>FEMA / Local</td>
</tr>
<tr>
<td>Blue Plains Floodwall Segments A, B and D*</td>
<td>DC Water</td>
<td>2024</td>
<td>$10-25M</td>
<td>FEMA BRIC / DC Water</td>
</tr>
</tbody>
</table>
## Action Plan

### Category 5 - Flood Infrastructure

#### Action 5.1 – Develop a list of capital projects to reduce flood risk

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Responsible Agency</th>
<th>Funding Year</th>
<th>Funding</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Capitol St underpass at 295</td>
<td>DDOT</td>
<td>Monitoring</td>
<td>$10-25M</td>
<td>Federal / Local</td>
</tr>
<tr>
<td>Ivy City interior flooding at Mount Olivet and West VA Ave and improvement of Lewis Crowe Park</td>
<td>DDOT, DPR, and DCHA</td>
<td>2024</td>
<td>$10-25M</td>
<td>FEMA BRIC/Local</td>
</tr>
<tr>
<td>Oxon Run Stream and Wetland Restoration*</td>
<td>DOEE</td>
<td>2025</td>
<td>$10-25M</td>
<td>Local / DC Water / FEMA</td>
</tr>
<tr>
<td>Watts Branch Blue-Green Infrastructure*</td>
<td>DOEE</td>
<td>2026</td>
<td>$50-75M</td>
<td>Local / FEMA</td>
</tr>
<tr>
<td>Oxon Run Stream and Wetland Restoration*</td>
<td>DOEE</td>
<td>2025</td>
<td>$10-25M</td>
<td>Local / DC Water / FEMA</td>
</tr>
<tr>
<td>Watts Branch Blue-Green Infrastructure*</td>
<td>DOEE</td>
<td>2026</td>
<td>$50-75M</td>
<td>Local / FEMA</td>
</tr>
<tr>
<td>SW/ Buzzard Point Living Shoreline</td>
<td>DDOT</td>
<td>2027</td>
<td>&gt;$100M</td>
<td>FEMA / Federal / Local / TBD</td>
</tr>
<tr>
<td>Kenilworth Park/Watts Branch Environmental Study</td>
<td>DOEE</td>
<td>2028</td>
<td>$50-75M</td>
<td>Local / FEMA</td>
</tr>
<tr>
<td>Stormwater Improvements in Palisades (Potomac Ave and MacArthur Blvd)</td>
<td>DDOT</td>
<td>2030</td>
<td>$10-25M</td>
<td>Local</td>
</tr>
<tr>
<td>DC Water Headquarters and Main &amp; O Pump Station</td>
<td>DC Water</td>
<td>TBD</td>
<td>&lt;$10M</td>
<td>Local / FEMA</td>
</tr>
<tr>
<td>Greenleaf Gardens Flood Retrofits</td>
<td>DCHA</td>
<td>TBD</td>
<td>TBD</td>
<td>Local / FEMA</td>
</tr>
<tr>
<td>I-295 and Chesapeake St SW</td>
<td>DDOT</td>
<td>Monitoring</td>
<td>&lt;$10M</td>
<td>TBD</td>
</tr>
<tr>
<td>Nannie Helen Burroughs underpass of I-295</td>
<td>DDOT</td>
<td>Monitoring</td>
<td>&lt;$10M</td>
<td>TBD</td>
</tr>
<tr>
<td>Rhode Island Metro underpass (additional flood control beyond 15-year storm managed by NEBT)</td>
<td>DDOT</td>
<td>TBD</td>
<td>TBD</td>
<td>Local</td>
</tr>
<tr>
<td>South Capitol and Malcolm X</td>
<td>DC Water</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>
### Action Plan

**Category 5 - Flood Infrastructure**

**Action 5.1 – Develop a list of capital projects to reduce flood risk**

#### Citywide Infrastructure Projects:
Below are citywide infrastructure projects that will be key in making DC more flood resilient:

*Project is partially funded*

<table>
<thead>
<tr>
<th>Infrastructure Project</th>
<th>Lead Agency</th>
<th>Earliest Construction Start</th>
<th>Cost Estimate</th>
<th>Funding Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right-of-Way Citywide Stormwater Management Improvements (roads, highways, alleys, drainage, etc.) *</td>
<td>DDOT</td>
<td>Ongoing</td>
<td>$10-25M</td>
<td>Federal / Local</td>
</tr>
<tr>
<td>Sewer System Rehabilitation CIP (identify which ones include flood reduction) *</td>
<td>DC Water</td>
<td>Ongoing</td>
<td>TBD</td>
<td>Federal / Local</td>
</tr>
<tr>
<td>Metro Stations and Infrastructure Flooding protection</td>
<td>WMATA</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Flood Mitigation in Parks and Open Space citywide</td>
<td>DPR, DGS &amp; OP</td>
<td>TBD</td>
<td>$50-75M</td>
<td>Local / FEMA</td>
</tr>
<tr>
<td>District buildings and facilities flood protection</td>
<td>DGS</td>
<td>TBD</td>
<td>$10-25M</td>
<td>Local / FEMA</td>
</tr>
<tr>
<td>Citywide Resilience Focus Areas (RFA) studies (areas not already studied): DOEE and federal</td>
<td>2026</td>
<td>$10-25M</td>
<td>Local / FEMA</td>
<td></td>
</tr>
<tr>
<td>Resilience Focus Area: Georgetown/Foggy Bottom</td>
<td>DOEE</td>
<td>2028</td>
<td>$10-25M</td>
<td>Local / FEMA</td>
</tr>
<tr>
<td>Resilience Focus Area: Oxon Run</td>
<td>DOEE</td>
<td>2028</td>
<td>$10-25M</td>
<td>Local / FEMA</td>
</tr>
<tr>
<td>Resilience Focus Area: Navy Yard</td>
<td>DOEE</td>
<td>2028</td>
<td>$10-25M</td>
<td>Local / FEMA</td>
</tr>
</tbody>
</table>
**Action Plan**

**Category 5 - Flood Infrastructure**

**Action 5.1 – Develop a list of capital projects to reduce flood risk**

**Federally-Led Projects:** Below are federally-led projects that will additionally be key in making DC flood resilient:

<table>
<thead>
<tr>
<th>Infrastructure Project</th>
<th>Lead Agency</th>
<th>Earliest Construction Start</th>
<th>Cost Estimate</th>
<th>Funding Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC Potomac Park Levee System Modifications (Permanent 23rd St. closure, berm modifications)</td>
<td>USACE</td>
<td>2024</td>
<td>&lt; $10M</td>
<td>USACE / IIJA funds</td>
</tr>
<tr>
<td>Potomac Park Seawalls &amp; Tidal Basin</td>
<td>NPS</td>
<td>2024</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Joint Base Anacostia Bolling and NRL</td>
<td>Federal</td>
<td>2024</td>
<td>$25-50M</td>
<td>Federal / Military</td>
</tr>
<tr>
<td>Fort McNair</td>
<td>Federal</td>
<td>2028</td>
<td>$10-25M</td>
<td>Federal / Military</td>
</tr>
<tr>
<td>National Mall/Federal Triangle Pump Station</td>
<td>Federal</td>
<td>2028</td>
<td>&gt;$100M</td>
<td>Federal</td>
</tr>
</tbody>
</table>

**Budget:**

**Total Estimated Cost:**
$415M-$705M+ for locally-led projects and $135M-$170M+ for federally-led projects starting between now and 2030, with an additional uncalculated cost for projects with unclear construction timelines and/or cost estimates. Just because a project is locally-led does not mean that it will necessarily rely on local funding for implementation. Most of the projects will ultimately require non-local funding sources.

**Cost Breakdown by Phase / Action (for known projects only):**
- $10M-$25M for locally-led ongoing projects (plus $100M+ for DC Water’s 2017 project)
- Up to $20M for locally-led projects starting as early as 2023
- $40M-$100M+ for locally-led projects and up to $10M for federally-led projects starting as early as 2024
- $20M-$50M for locally-led projects and $25-50M for federally-led projects starting as early as 2025
- $70M-$125M for locally-led projects starting as early as 2026
- $100M+ for locally-led projects starting as early as 2027
- $165M-$350M+ for locally-led projects and $110M+ for federally-led projects starting as early as 2028
- $10M-$25M for locally-led projects starting as early as 2030

**Long Term Budget Requirements:** Implementation would require continued investment of anywhere from $10M-$200M+ per year. Funding sources may include, but are not limited to: local dollars, federal grants (formula and competitive, including money from the Bipartisan Infrastructure Law) with the majority coming from FEMA, and DC Water budget / ratepayer funding. A detailed project list with estimated budget, timeline, and funding source is available [here](#).
Action Plan
Category 5 - Flood Infrastructure
Action 5.1 – Develop a list of capital projects to reduce flood risk

Timeline:
An Inter-agency team led by DOEE and DC Water will meet annually in July / August timeframe in order to (a) Update the Infrastructure Projects list, including the timeline, cost estimates, and funding sources; (b) Highlight updates from the upcoming fiscal year; and (c) Prepare budget requests for the following fiscal year.

Public Outreach and Input:

Past public outreach & engagement approach/actions:
- Outreach to develop the infrastructure project list was limited to agencies’ and organizations’ existing and planned project portfolios. The scope of this outreach was therefore limited to agencies represented on or engaging with the Flood Task Force, including DMOI, DDOT, DOEE, DPR, OP, DCHA, DGS, DC Water USACE, NPS, and WMATA.
- The public had the opportunity to comment on individual projects during those projects’ comment periods / input processes.
- The public was able to participate in Flood Task Force meetings and comment on action plans.

Current/future public outreach & engagement approach/actions:
- Public outreach would be conducted for each project as the project is developed and continues through planning, design, and construction. Outreach would be conducted by the project lead agency.

What were the Public Comments of relevance to this Action?

Public Comments on this Action Plan from Sept/Oct 2022
- From the Committee of 100 on the Federal City:
  - The District should set an ambitious goal for capital spending on flood control infrastructure and designate a minimum percentage of the capital budget for flood control studies and projects. For example, Boston’s mayor advocated spending ten percent (10%) of the city’s capital budget over five years ($30 million) for climate change adaptation. We support giving great consideration to implementing the total estimated cost and cost breakdown table for local-led projects.
  - From the Committee of 100 on the Federal City: The District should prioritize projects that will effectively protect vulnerable populations, such as Greenleaf Gardens.
  - From the Committee of 100 on the Federal City: The District should prioritize studies and projects to create and protect natural shorelines, including wetlands restoration. Examples include Oxon Run Stream and Wetlands Restoration, and SW Buzzard Point Living Shoreline.

- From Brenda Lee Richardson, District Resident and Coordinator for Anacostia Parks & Community Collaborative (APACC):
  - If DOEE will be responsible for leading once annually interagency prioritization and infrastructure list management, why not do it more often considering the urgency of the matter. In light of the state of climate change and the frequency of severe flooding, it
Action Plan  
Category 5 - Flood Infrastructure  
Action 5.1 – Develop a list of capital projects to reduce flood risk

should meet at least 4 times per year.

  o The community engagement approach seems a bit lacking in this particular plan. It is incumbent upon the task force to ensure that we are well informed about the entire scope of this project. You should take more time to consider the disfavored communities that will be more greatly impacted. Again, a PSA would be very helpful. You could also post the PSA on monitors in the Social Security office and banks.

• From the D.C. Commission on Climate Change & Resiliency: The Commission supports the endeavor to inventory infrastructure projects with the purpose of reducing flood risks at a large scale. The Commission recommends the Task Force to:
  o Ensure that these dedicated projects anticipate future projected climate impacts and are not reliant on only historic data.
  o Annually revisit, revise, and update the list of candidate flood infrastructure projects in light of evolving risk and vulnerability. This may result in reprioritization of projects for funding or amending project designs to better account for the latest climate science.
  o Establish evaluation criteria in the capital budget planning process which assesses flood risk reduction measures in all capital improvement projects so as to leverage pipeline investments and strengthen community resiliency.
Action Plan
Category 6 – Regulations, Legislation, Compliance, and Permitting
Action 6.1 - Update Floodplain Regulations

Overview and Implementation Strategy:

The goal of this action is to update the District’s Flood Hazard Rules (also referred to as floodplain regulations) to account for increased flood risk due to climate change. The Climate Ready DC report indicates that the projected 100-year floodplain in 30-60 years is more similar to today’s 500-year FEMA floodplain because of climate change.

The proposed updated Rules would reduce long-term risk through measures such as an expansion of regulatory jurisdiction to the 500-year floodplain, a new buffer zone for areas impacted by sea level rise, and a ‘no-adverse-impact’ requirement that new development not increase flood elevations for existing properties. They also would increase the District’s Design Flood Elevation to match that specified by the 2017 DC Construction Codes, which is informed by the recently-reinstated Federal Flood Risk Management Standard.

Impacted City Ward/ANC:
- Wards 2, 3, 5, 6, 7, and 8 all contain structures located in the 500-year floodplain, but Wards 6, 7, and 8 contain 19%, 56%, and 19%, respectively of the structures in the 500-year floodplain.

Lead Agency:
- DOEE

Supporting Agencies, Roles/Commitments:
- DOB – Permit review collaboration and Construction Codes administration.
- FEMA – Review and approval of proposed regulations for National Flood Insurance Program (NFIP) compliance.
- DCOP – Discuss whether corresponding changes to Future Land Use Map and Zoning Regulations would be valuable.

Background:

Impact of this Effort on Task Force Goal:
- The regulatory update would reduce the risk of water damage from coastal and riverine flooding by requiring more properties to be protected via elevation or floodproofing. It would help maintain the District’s affordable housing stock by reducing the risk that homes will be removed from the market due to flood damage.

Historical Context:
- The Climate Ready DC Report addressed patterns of increasing precipitation and rising sea levels. Today’s one in 100-year precipitation event could become a one in 25-year event by mid-century, and a one in 15-year event by the 2080s. By 2080, the U.S. Army Corps of Engineers predicts up to 3.4 feet of additional sea level rise in DC, and more recent NOAA models predict even greater magnitudes of sea level rise.
Data from the Climate Ready DC report indicates that the expected amount of precipitation over the course of 6 hours during a 100-year storm in the District is expected to increase by 67% by the 2080s.

According to data from “The 2018 State of High Tide Flooding and 2019 Outlook” by the National Oceanic and Atmospheric Administration (NOAA), there was a record of 22 high tide flood days in the District in 2018. The previous record was ten (10) high tide flood days in a year, and the average number of high tide flood days in 2000 was just three (3) days.

In May of 2020, the District adopted the 2017 DC Construction Codes (12-A DCMR). These Codes set the District’s Design Flood Elevation at the 500-year flood elevation, or the 100-year flood elevation plus two feet, whichever is higher at a given site.

The cities of Baltimore, Houston, Austin, and Charlotte have all expanded their regulated floodplains from the 100-year to the 500-year zones.

### Equity:

**How does this action prioritize equity and residents who are most impacted?**

Both regulation and built solutions are important components to reducing flood risk, but the focus of this particular action is to craft regulations that protect residents that live in a floodplain while also ensuring that we minimize the financial impacts on the residents themselves.

- Wards 6, 7, and 8 contain 94% of the structures in the 500-year floodplain, and 75% of those structures are in Wards 7 and 8. Each of the Census tracts bordering the Watts Branch floodplain in Ward 7 and the Oxon Run floodplain in Ward 8 are ranked as having a high or moderate-to-high level of vulnerability to disasters by the Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI). Because of these areas’ increased vulnerability, it is especially important that flood risks and the costs of recovery are not added to this historically disinvested population. When new buildings are built, regulations help make the residents safer.

- Race, income, and equity have been the most important considerations (aside from flood risk reduction) in DOEE’s decision-making process, and DOEE can point to a number of provisions in the regulations that we have modified as a result of our equity focused analysis. These include removing the originally proposed flood insurance requirement and modifying the regulations for single- and two-family homes so that they avoid the need to elevate their home when doing moderate renovations.

### Timeline:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>DOEE</td>
<td>Submit proposed rulemaking to District Register. Conduct additional outreach to facilitate community engagement during the public comment period.</td>
</tr>
<tr>
<td>2023</td>
<td>DOEE</td>
<td>Revise rulemaking based on comments and publish final rulemaking.</td>
</tr>
</tbody>
</table>
Action Plan
Category 6 – Regulations, Legislation, Compliance, and Permitting
Action 6.1 - Update Floodplain Regulations

Budget:

Total Estimated Cost: None – DOEE expects any costs associated with implementation of this Action would be absorbed by staff time.

Long Term Budget Requirements: None.

Public Outreach and Input:

Past public outreach & engagement approach/actions:

- DOEE has engaged stakeholders in our plans to update the Flood Hazard Rules since March of 2020. Key meetings are listed below. Meeting recordings and presentations from those meetings can be found here: https://doee.dc.gov/publication/title-20-chapter-31-flood-hazard-rules
  - Introductory Presentations
    - 03/10/2020 – DC Building Industry Association
    - 03/24/2020 – Environmental Stakeholders
  - Technical Workshops for Built Environment Professionals
    - 04/20/2021 (Overview)
    - 04/29/2021 (Mapping)
    - 05/20/2021 (Vesting and Transition)
    - 06/10/2021 (Commercial, Mixed-Use, and Multifamily Development)
  - Public Meetings
    - 07/29/2021 (Residential Property Focus)
    - 08/03/2021 (Residential Property Focus)
    - 08/19/2021 (Commercial Property Focus)

Current/future public outreach & engagement approach/actions:

- Once proposed changes are made, a final version will be released for public comment in the DC Register.

What were the Public Comments of relevance to this Action?

Comments from Proposed Updated Flood Hazard Rules Workshops

- Theme 1 (Cost of Retrofits) – Multiple stakeholders expressed concern regarding the potential cost of retrofits to bring substantially damaged or substantially improved homes into compliance. This feedback informed our FloodSmart Homes program and $200,000 exception provision for existing single-family homes in the 500-year floodplain.
- Theme 2 (Risk Reduction) – Multiple stakeholders expressed support for risk reduction and climate adaptation provisions such as the standard that would prohibit any new development from increasing the design flood elevation at an existing property.
Action Plan
Category 6 – Regulations, Legislation, Compliance, and Permitting
Action 6.1 - Update Floodplain Regulations

Public Comments on this Action Plan from July/Aug 2022

- From the DC Commission on Climate Change and Resilience:
The Commission supports the Flood Task Force’s proposal to extend risk-reducing regulations to the 500-year floodplain. The Commission encourages the Flood Task Force to identify current and future risk areas in the flood hazard areas, as FEMA’s 100- and 500-year floodplains do not account for pluvial flooding, projected sea-level rise, or other risk factors such as groundwater, underground streams and springs. The Commission encourages the Flood Task Force to account for more comprehensive flood risks in the proposed flood hazard rule updates (such as interior flooding and projected weather changes) and directly correlate these risk factors with both existing conditions and the Future Land Use Map codified in the recently updated DC Comprehensive Plan.

- From the Sierra Club:
With regard to Regulations, Legislation, Compliance, and Permitting; Action 6.1 - Update Floodplain Regulations; this is a well-reasoned and methodical approach to updating floodplain regulations and management. Sierra Club highlights the attention to race, income, and equity considerations in shaping flood risk reduction objectives. The severity and cost to respond to flood disaster can fall disproportionately on low-income citizens, so building capacity for these communities to be resilient should be a priority for the District government.
Overview and Implementation Strategy:
The goal of this action is to make improvements in how DOB and DOEE coordinate and execute local floodplain regulations so the District can remain in good standing with the National Flood Insurance Program (NFIP). The Federal Emergency Management Agency (FEMA) administers the NFIP to help communities reduce flood risk. Communities that join and remain in good standing with the NFIP receive mapping assistance, federally backed flood insurance, disaster assistance and funding for flood reduction projects.

The District joined the NFIP in 1976, and in doing so adopted the federal minimum standards for regulating development in mapped floodplain areas. Today, the federal minimum standards are incorporated within two separate District regulations, the Flood Hazard Rules and 2017 Construction Codes. The Department of Buildings (DOB), the Code Official, is responsible for enforcing the 2017 Construction Codes. The Department of Energy and Environment (DOEE), the Floodplain Administrator, is responsible for enforcing the Flood Hazard Rules. Both regulations are enforced through a permitting process that includes reviewing construction plans and conducting inspections. Ultimately, DOEE and DOB would improve coordination in their permitting processes to ensure federal minimum standards required by the NFIP are being enforced.

Impact of this Effort on Task Force Goal:
This action provides recommendations for improving the coordination and resources between DOB and DOEE for regulating development in specified floodplain areas. This is consistent with the Task Force’s goal to provide action items in accordance with Category 9 (Regulations, Legislation, Compliance and Permitting).

Historical Context:
In 2016, the Federal Emergency Management Agency conducted a Community Assistance Visit (CAV) audit to determine the District’s compliance as a National Flood Insurance Program (NFIP) participating community. The CAV highlighted the need to improve the permitting process so that all plans for development in the regulated floodplain are properly reviewed.
To address issues brought up in the CAV as well as further solidify interagency coordination, DOEE and DCRA updated a Memorandum of Agreement (MOA) outlining the responsibilities of each agency, recently renewed on August 23, 2021.

On May 6, 2021, DOEE and DOB began holding bi-weekly coordinating meetings to identify opportunities to enhance efficiency in the permitting process for development in the Special Flood Hazard Area. Together, DOEE and DOB have identified the following internal process changes that could make the permitting process more efficient and effective and make construction in the District more flood resilient.

- Better integration of floodplain requirements into the certificate of occupancy process (C of O)
- Improving the permit intake process to better capture interior work permits, specifically work to repair or install mechanical, electrical, and plumbing components, when they occur in buildings in a floodplain. The C of O process can be instrumental in helping to verify the construction meets the required and protective building elevations. The interior work permits will likewise be instrumental in ensuring residents are installing equipment in ways that are flood resilient.
- Increasing DOB’s capacity to inspect construction as it occurs to verify it is designed according to the floodplain standards, and in a way that can keep residents and businesses safe.

Equity:

**How does this action assist vulnerable communities?**

This action would increase flood safety and reduce flood mitigation costs in the District’s most vulnerable communities by improving the efficiency of permitting within the Special Flood Hazard Area (SFHA).

- The SFHA is also known as the 100-year floodplain; it is the only area where development must meet floodplain design standards.
- Many of the residential and commercial buildings within the SFHA are in the most vulnerable communities. For example, 98% of single-family residential structures in the SFHA are in Wards 7 and 8.
- The median SVI Score for Census tracts in Wards 7 and 8 intersecting the Special Flood Hazard Area is 0.8295, which indicates a high level of vulnerability. For comparison, the SVI Score for the District overall is 0.5965.
- As DOB and DOEE continue to improve permitting processes for development in the SFHA, the goal is for flood resilience of buildings in the most vulnerable communities to also increase.
Action Plan
Category 6 - Regulations, Legislation, Compliance and Permitting
Action 6.6 – Process Improvements for Floodplain Review

Timeline:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DOEE, DOB</td>
<td>Coordinate and identify fixes in permitting process to be implemented. \ Implement fixes in DOB permitting system software. \ Train permit intake staff to support the floodplain review process for interior work, specifically mechanical, electrical, and plumbing work.</td>
</tr>
<tr>
<td>2024</td>
<td>DOB</td>
<td>Hire and train a new inspector to enhance capacity to conduct floodplain inspections.</td>
</tr>
</tbody>
</table>

Budget:

Total Estimated Cost: $200,000 (Onetime payment in FY23)

Long Term Budget Requirements: If implemented, this would require a new employee in perpetuity to add capacity to the DOB inspection team, to help verify that buildings in the floodplain are properly constructed and have necessary documentation.

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Funding Source</th>
<th>Amount to be Requested</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DOB</td>
<td>Local</td>
<td>$200,000</td>
<td>Funding to pay for upgrades to permit intake programs such as Accela Citizens Access and the residential permit wizard. Training for staff and applicants which will allow process improvements described above.</td>
</tr>
<tr>
<td>2023 and beyond</td>
<td>DOB</td>
<td>Local</td>
<td>$150,000</td>
<td>New permanent staff to increase, project screening, plan review and site inspection capacity</td>
</tr>
</tbody>
</table>
Public Outreach and Input:

Past public outreach & engagement approach/actions:
- N/A

Current/future public outreach & engagement approach/actions:
- N/A

What were the Public Comments of relevance to this Action?

Public Comments on this Action Plan from Oct - Dec 2022

- From the Clean Water Committee, Sierra Club DC Chapter:

  The goal of this action item is to make improvements in how the Department of Buildings (DOB) and the Department of Energy and Environment (DOEE) coordinate and execute the local floodplain regulations so that the District can remain in good standing with the National Flood Insurance Program (NFIP). Good standing with the NFIP is of course essential, but it only requires adoption and reliable implementation of minimum federal standards regulating development in mapped floodplain areas. It’s well understood that the 100-year floodplain will continue to grow as storm events worsen—as is expected in the years ahead. Failure to plan for this certainty will result in ever worse flood conditions in the existing floodplain, as well as proximal areas. Sierra Club recommends that the DC Flood Task Force requests that it be granted a broad mandate to study and assemble best practices for managing development in the 100-year floodplain and to advance the study to DOEE and DOB, with options for improving the regulation of DC’s floodplains so as to minimize the effects of flooding.
Overview and Implementation Strategy:

The goal of this action is to increase coordination between District and Federal agencies on development within the floodplains, which includes land regulated by both federal and district agencies. Coordination is necessary because federal facilities are regulated by different standards compared to other non-federal property in the District. Washington, DC is unique in that consequences of flooding to federal assets affect the District and vice versa.

For example, flooded streets can prevent District residents from getting to their federal jobs. The assembly of the 17th Street Levee closure by NPS helps protect both federal assets as well as district residents in SW DC. There are many examples on the waterfront where federal property is adjacent to non-federal property. If one property owner builds a flood wall to 15 feet, but the adjacent property only has a 14-foot flood wall, then the area is only protected up to 14 feet.

NCPC and DOEE have identified the following broad opportunities to help achieve this goal.

1. Sharing data and models: For example, DOEE intends to share the results of the Integrated Flood Model, including a map of what the 100-year floodplain plus 2 feet, and 100-year floodplain plus 3 feet would look like.

2. Coordinating on project review and setting standards: DOEE is already able to comment on (but not regulate) federal projects through NCPC’s coordinating committee and public comment process as part of NCPC’s monthly commission meeting.

3. Continued coordination on the design and construction of large-scale infrastructure projects, such as levees or blue green infrastructure that may affect both federal and non-federal land. DOEE routinely invites NCPC and other federal agencies to comment as stakeholders on flood risk mitigation projects such as the SW/Buzzard Point Resilience Parks. NPS has engaged DOEE in conversations about repairs to the seawall around the Tidal Basin.

4. Staff briefing: On an annual (or more frequent) basis, DOEE and NCPC should host informal or formal briefings to provide updates on floodplain policy, upcoming projects, and review any opportunities for increased collaboration.

Ultimately, these opportunities will help district and federal agencies improve critical communication on developments that affect their residents and assets.

Impacted City Ward/ANC:

- All Wards within the 500-year floodplain, especially on or adjacent to federal property

Lead Agency:

- DOEE
- NCPC

Supporting Agencies, Roles/Commitments:

- USACE
- NPS
- GSA
Action Plan
Category 6 – Regulations and Permitting
Action 6.7 – Improve Federal & District Collaboration on Floodplain Management

- SI
- DCOP

Background:

Impact of this Effort on Task Force Goal:

- This ongoing action would help increase collaboration between District and Federal agencies on flood risk management projects and project review, and to ensure the protection of individual facilities are consistent with surrounding parcels and do not create any adverse impacts to neighboring properties.

Historical Context:

- DOEE’s floodplain review authority does not extend to federal land (unlike other environmental regulatory authorities like stormwater). Projects that are on federal land and in floodplains are subject to floodplain standards that are unique to each implementation agency (NPS, DOD, or GSA for example).
- The federal government owns approximately 85 percent of the shorelines in Washington, DC, making federal floodplain management and infrastructure protection an important part of a District-wide flood resilience strategy.
- The President, through executive orders, sets the minimum standards that each agency must follow regarding floodplain management. More information is available about the floodplain review process in NCPC’s Floodplain Review Resource Guide.
- The current effective executive order is EO 13690, “Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input.”
- EO 13690 – initially published by President Obama and revoked by President Trump, was reinstated by President Biden’s EO 14030, “Climate-Related Financial Risk.”
- Federal agencies are currently developing national-level guidance in response to EO 14030 that reflects their unique mission, i.e., NPS is developing an NPS-wide floodplain guidance that will be used for all NPS projects in the United States.
- Since 1978, the default federal guidance has used the 100 year-flood elevation as a standard. EO 13690 amends the long-standing federal guidance by establishing Federal Flood Risk Management Standards (FFRMS) which allow federal agencies to consider three different, more stringent approaches (a climate-informed science approach, the 500-year elevation, or the 100-year elevation +2/+3 feet). The FFRMS also encourages nature-based approaches.

Equity:

How does this action prioritize equity and residents who are most impacted?

This action is focused on residents and businesses that were exposed to more flood risk than counterparts simply due to having federal property as nearby neighbors. By coordinating federal and local infrastructure projects and development are coordinated we can help all District residents be equally protected.
Action Plan
Category 6 – Regulations and Permitting
Action 6.7 – Improve Federal & District Collaboration on Floodplain Management

Timeline:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023 and beyond</td>
<td>DOEE</td>
<td>Meet annually to share new development standards in floodplains, and review collaboration opportunities.</td>
</tr>
<tr>
<td></td>
<td>NCPC</td>
<td></td>
</tr>
<tr>
<td>2025</td>
<td>DOEE</td>
<td>Create 100-year + 2 and 100-year +3 feet map with Integrated Flood Model and share with NCPC and federal agencies.</td>
</tr>
</tbody>
</table>

Budget:

Total Estimated Cost: N/A

Long Term Budget Requirements: There are no budget requirements, action would be performed via staff time.

Public Outreach and Input:

Past public outreach & engagement approach/actions:

- N/A

Current/future public outreach & engagement approach/actions:

- N/A

What were the Public Comments of relevance to this Action?

Public Comments on this Action Plan from Oct - Dec 2022

- From the Clean Water Committee, Sierra Club DC Chapter:

  This action suggests that staff briefings between DOEE and the National Capital Planning Commission (NCPC) to provide “updates on floodplain policy, upcoming projects, and review any opportunities for increased collaboration” should be held on an “annual or (more frequent) basis.” Sierra Club recommends that staff briefings be held publicly or that the result of internal meetings between DOEE and NCPC be shared publicly.

  Sierra Club recommends that the consulting representative from the National Park Service National Capital Region hold an informational session for the DC Flood Task Force members and stakeholders about the NPS-wide floodplain guidance that is being developed in response to EO 14030. Since the federal government owns approximately 85 percent of the shorelines in Washington, DC, it is important for all decision-makers, stakeholders, and impacted residents to understand this new NPS-wide floodplain guidance when it is published.
We note the purpose of this action is to “ensure that District and Federal agencies are sharing resources and coordinating on development within the floodplains, which include land regulated by both federal and district agencies.” Opportunities for coordination listed in this action include sharing data and models, coordinating on project review and setting standards, and continued coordination on the design and construction of large-scale infrastructure projects. We request additional information be provided to stakeholders and the public on the following: In what ways will the collaborating actions being proposed by the DC Flood Task Force shape the process for the ongoing development of the DC Anacostia River Corridor Restoration Plan and the comprehensive plan itself?
Action Plan
Category 6 – Regulations, Legislation, Compliance and Permitting
Action 6.8 – Update Real Property Disclosure Rules

Overview and Implementation Strategy:

The goal of this action is to make prospective buyers of property in the District aware of past flooding issues and the status of flood risk mitigation infrastructure on their property. This would be done via the Real Property Seller’s Disclosure Statement which is required to be completed by the property seller and made available to the prospective purchaser.

Impacted City Ward/ANC:

- All Wards

Lead Agency:

- DOB and DLCP

Supporting Agencies, Roles/Commitments:

- DOEE and DC Water (advise on changes)

Background:

Impact of this Effort on Task Force Goal:

- The effort would directly increase the awareness of District property owners to flood risk on their property and help them be more prepared when a flood does occur.

Historical Context:

- The Real Property Seller’s Disclosure Statement is defined in the DCMR Chapter 27, REAL ESTATE PRACTICE AND HEARINGS, of Title 17 DCMR, BUSINESS, OCCUPATIONS, AND PROFESSIONALS.
- Specifically, it is described in Section 2708, REAL PROPERTY SELLER’S DISCLOSURE STATEMENT.
- DCMR Chapter 27 is authorized by Section 6(1)(A) of the Residential Real Property Seller Disclosure, Funeral Services Date Change, and Public Service Commission Independent Procurement Authority Act of 1998, which was effective April 20, 1999 and Mayor’s Order 99-82, dated May 21, 1999.
- FEMA recently published on July 11, 2022 their Model State Requirements for Disclosing Flood Risk During Real Estate Transactions report, which provide new best practices for what to include in Disclosure Statements.
- According to the report, the District was ranked 34th out of the US states and territories in their current number of mandated flood risk disclosures.
- DOEE and DC Water have proposed amendments to the DCMR Section 2708 to specify the disclosure of environmental issues associated with the property such as flood, stormwater runoff, sewer backup, drainage or grading on the property or in any of the improvements on the property.
**Action Plan**

*Category 6 – Regulations, Legislation, Compliance and Permitting*

*Action 6.8 – Update Real Property Disclosure Rules*

**Equity:**

*How does this action prioritize equity and residents who are most impacted?*

Updating these disclosure statements would help every District resident be aware of the environmental issues and possible solutions that might impact their prospective property. Being aware of these issues beforehand is good for everyone, but also have greater benefits for low-income residents who are least able to handle the costs of unexpected stormwater and flooding issues.

**Timeline:**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DOB/DLCP</td>
<td>Submit proposed rulemaking to District Register.</td>
</tr>
<tr>
<td></td>
<td>DOB/DLCP</td>
<td>Conduct additional outreach to facilitate community engagement during the public comment period.</td>
</tr>
<tr>
<td>2024</td>
<td>DOB/DLCP</td>
<td>Revise rulemaking based on comments and publish final rulemaking.</td>
</tr>
</tbody>
</table>

**Budget:**

**Total Estimated Cost:** None – DOB expects any costs associated with implementation of this Action would be absorbed by staff time.

**Long Term Budget Requirements:** None.

**Public Outreach and Input:**

**Past public outreach & engagement approach/actions:**

- N/A

**Current/future public outreach & engagement approach/actions:**

- Once proposed changes are made, a final version would be released for public comment in the DC Register.

**What were the Public Comments of relevance to this Action?**

*DC Flood Task Force Public Listening Sessions*

- Multiple residents in Task Force Listening Session and other public meetings described their experience with backwater flooding and groundwater flooding which caused thousands of...
dollars in damage, and environmental hazards. Property owners may have been better prepared - either by not buying the property or installing upgrades had they been informed of the home’s prior history.

Public Comments on this Action Plan from Sept/Oct 2022

- From the District of Columbia Building Industry Association (DCBIA):
  DCBIA recommends doing this carefully and seeking the input of the development community early on in the process, to prevent requirements from becoming onerous or impossible to meet.
**Overview and Implementation Strategy:**

The goal of this action is to map the areas of the District that are vulnerable to interior flooding to identify neighborhoods that should be prioritized in flood resilience projects. While FEMA floodplain maps highlight areas at risk of coastal and riverine flooding, the maps do not identify locations with interior flood risk. For example, Bloomingdale and multiple neighborhoods in northeast DC were flooded in 2012 and 2020, respectively, and are not near any FEMA defined floodplains. Mapping would occur in three phases:

**Integrated Flood Model**

Over the next few years, the District intends to engage in state-of-the-art modeling to create these interior flood maps via the Integrated Flood Model (IFM). This project is being led by DOEE in close coordination with DC Water. When complete, maps will be available to the public showing the areas that are flooded in multiple rainfall scenarios that include climate change factors. These maps will use latest modeling software, storm sewer information, and on-the-ground surveys to create detailed and accurate representations.

The maps will be used to test the designs of resilient infrastructure and can also be used to inform property owners that they are at risk of flooding prior to major improvements or construction on their property so that they may build in a more flood resilient manner. In the future, Task Force agencies may also decide to use these maps to focus outreach efforts, risk reduction programs, or policy changes.

**Short Term Mapping**

Because of the complexity of the IFM, producing high quality maps will take some time. The Task Force recognizes the importance of providing District businesses and residents with information as soon as possible, so that they can prepare their structures before the next rainstorm. In support of that, Task Force members will develop an internal process in 2023 to notify permit applicants if they are building in an area with a history of interior flooding so that the applicant may take any necessary precautions in the design.

**Centralized Reporting**

Lastly, while the IFM will help predict where interior flooding occurs, the District also needs to develop a centralized place for tracking incidents of internal flooding throughout the District. Multiple agencies including HSEMA, DOEE, DC Water, and DDOT have kept their own databases of interior flood reports they have received, but they are not easily linked together. One goal of this action plan is to link these databases together so that data can be more easily accessed between agencies. This will help District agencies to collaborate on addressing resident issues more efficiently and provide an important way to calibrate and validate the IFM as it is being developed.

Ultimately, this action would develop maps, notification systems, and a centralized database based on modeling and analysis of historical data to inform both property owners and agencies in the District of areas at high risk of interior flooding.
Action Plan
Category 7 – Mapping and Modeling
Action 7.1 – Map Interior Flooding Locations

Impacted City Ward/ANC:
- All Wards

Lead Agency:
- DOEE

Supporting Agencies, Roles/Commitments:
- HSEMA
- DC Water
- DDOT
- DOB
- OCTO

Background:

Impact of this Effort on Task Force Goal:
- The effort would make residents and businesses aware of their flood risk.
- The effort would help District agencies know where to focus their efforts on flood resilience projects.

Historical Context:
- In 2017, DC Silver Jackets created a map and report of historical flooding occurring in the District prior to 2015. The result of this report was the identification of the need for a District-wide Integrated Flood Model.
- HSEMA sent out a survey to residents following the September 10, 2020, flood, to determine which neighborhoods and areas across the District experienced flooding. The results of the survey were input into a map. HSEMA also compiled a secondary map that included results of the September 10 flood reports received by the Joint All Hazards Operations Center as well as the results of the 2017 DC Silver Jackets mapping study.
- DOEE has historically tracked flooding complaints internally in a regularly updated spreadsheet, but recently DOEE has updated their Flood Risk Portal to include a “Submit a Story” feature that allows residents to submit geotagged locations of flooding they have experienced.
- DC Water tracks data on all calls about issues related to high standing water, blocked storm water catch basins, and blockages in the sewer system.
- DDOT has compiled a list of areas that are prone to flooding. The locations are identified by street intersections, stretches of road between two intersections as well as larger geographical areas.
- The District has allocated $5.77 million for the IFM, managed by DOEE. The contract to develop the IFM began in March 2022 and can extend up to March 2027. The funds will be sufficient to develop maps projected to be complete in 2025, but additional funding is necessary to create neighborhood scale resilience plans for neighborhoods that are identified as having interior flood risk.
**Equity:**

How does this action prioritize equity and residents who are most impacted?

- By mapping areas at risk of interior flooding, residents would be more aware of the need to mitigate potential damages. This would reduce the cost of repair, health issues, and displacement. These issues would be most damaging to low-income residents.
- Interior flooding is something that can happen anywhere in the District, but when it does occur, it has greater impacts for low-income residents who are least able to handle the costs of repair and clean up.
- By requiring mapping these at-risk areas, we can help make residents more aware of their risk of interior flooding and help focus the District’s resources into the areas that need it most, but may have been overlooked since they were not on FEMA floodplain maps.

**Timeline:**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DOEE</td>
<td>Create an internal process to notify permit applicants if they are building in an area with a history of interior flooding based on historic data points from DC Water, DDOT, and HSEMA.</td>
</tr>
<tr>
<td>2023</td>
<td>DC Water / DOEE / HSEMA / OCTO</td>
<td>Collaborate on creating a centralized place for flood reporting or for data interoperability. Sign MOU if necessary. Would be in conjunction with Action Plan 8.2 Drainage Committee Improvements.</td>
</tr>
<tr>
<td>2022-2025</td>
<td>DOEE</td>
<td>Oversee the creation of the Integrated Flood Model.</td>
</tr>
<tr>
<td>2026</td>
<td>DOEE</td>
<td>Consider regulating development within the interior flooding floodplains, as well as making results of the IFM available to the public.</td>
</tr>
<tr>
<td></td>
<td>HSEMA/DC Water/DDOT</td>
<td>Update operating procedures to reflect awareness of additional interior flood zones.</td>
</tr>
<tr>
<td></td>
<td>DISB</td>
<td>Consider insurance requirements for those living in areas deemed at risk of interior flooding</td>
</tr>
</tbody>
</table>
Action Plan
Category 7 – Mapping and Modeling
Action 7.1 – Map Interior Flooding Locations

Budget:
Total Estimated Cost: $1,652,000

Cost Breakdown by Phase / Action:
- $152,000 total (sourced across three agencies) for the creation of a centralized flood damage reporting platform.
- $1,500,000 in additional funding for the IFM to support the creation of neighborhood scale resilience plans.
- N/A (staff time) to create an internal process to notify construction permit applicants if they are in an area historically affected by interior flooding.

Long Term Budget Requirements: None

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Funding Source</th>
<th>Amount to be Requested</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DOEE</td>
<td>FEMA CAP Grant</td>
<td>$52,000</td>
<td>Funding to support centralized place for flood complaints.</td>
</tr>
<tr>
<td>2023</td>
<td>DC Water</td>
<td>Local</td>
<td>$50,000</td>
<td>Funding to support centralized place for flood complaints.</td>
</tr>
<tr>
<td>2023</td>
<td>HSEMA</td>
<td>Local</td>
<td>$50,000</td>
<td>Funding to support centralized place for flood complaints.</td>
</tr>
<tr>
<td>2024</td>
<td>DOEE</td>
<td>Local Capital</td>
<td>$1,500,000</td>
<td>Funding to add to the IFM contract to allow for creation of neighborhood scale resilience plans.</td>
</tr>
</tbody>
</table>
**Action Plan**

**Category 7 – Mapping and Modeling**

**Action 7.1 – Map Interior Flooding Locations**

**Public Outreach and Input:**

**Past public outreach & engagement approach/actions:**

- N/A

**Current/future public outreach & engagement approach/actions:**

- As interior flood areas are identified, each agency would tailor their outreach and mitigation efforts to target those residing in these increased flood risk zones.

**What were the Public Comments of relevance to this Action?**

*Public Comments on this Action Plan from Oct - Dec 2022*

- From the Clean Water Committee, Sierra Club DC Chapter:

  Sierra Club strongly supports Action Plan 7.1 and the intent behind mapping interior flooding. Climate change is known to result in more frequent and more severe storms, with subsequent flooding. DC has long experienced property damage resulting from interior flooding due to the area’s topography. Using such maps to promote resilient infrastructure and encourage risk reduction and policy changes are important next steps. Examples provided are all practical and feasible. Sierra Club proposes that an additional, more forward-looking step be identified for further consideration: a long-term plan for managing internal stormwater to mitigate flood risk. DC has gained experience with “best available technology” (e.g., onsite retention) as a result of efforts to manage CSOs into Rock Creek and other surface waters. Broadening and extending this stormwater management strategy to floodwater management is a key element in mitigating interior flooding.
Overview and Implementation Strategy:

To better understand the flood risk in the Watts Branch study area, the U.S. Army Corps of Engineers and DC Silver Jackets team conducted modeling and mapping to capture the flow of water more accurately throughout the watershed. As a result of this effort, the District now has access to flood risk maps that are more accurate than the existing Flood Insurance Rate Maps (FIRMs) produced by FEMA.

The goal of this action is to update the FEMA FIRMs for the Watts Branch area to be more accurate based on the latest modeling and mapping. DOEE intends to apply to FEMA for a Letter of Map Revision (LOMR) to officially update the FEMA FIRMs for the area.

Impacted City Ward/ANC:
- Ward 7
- ANC 7C01, 7C02, 7C03, 7C04, 7C05, 7D02, 7D03, 7D06, 7D07

Lead Agency:
- DOEE

Supporting Agencies, Roles/Commitments:
- DOEE
- FEMA (review of LOMR application and revision of FIRMs)
- U.S. Army Corps of Engineers (potential revision of modeling to meet FEMA standards)

Background:

Impact of this Effort on Task Force Goal:
- This effort updates flood maps using more accurate modeling. It bolsters flood readiness by providing a more accurate depiction of areas most at risk for flooding. The updated maps would also reduce the financial impact of federal insurance requirements by reducing the number of properties in the floodplain. Updated and more accurate modeling does not always reduce the number of properties in a floodplain, but in this case, it does.

Historical Context:
- Hydrologic modeling was completed to estimate peak flows throughout the watershed, and hydraulic modeling was developed to depict the watershed response (where it floods) more accurately.
- This modeling was completed using the latest two-dimensional (“2D”) data and information gathered for the study; it therefore provides a more accurate representation of the flood risk in the study area than the 2010 FIS, which is based on a one-dimensional (“1D”) model. The 2010 FIS was used to create the FIRMs that map the current and effective FEMA 100-year floodplain.
Equity:

How does this action prioritize equity and residents who are most impacted?

The underlying reason for this action is to provide the best and most accurate data to District residents. The action does have an equity impact as the area that needs to be updated is also an area with high social vulnerability on the Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI).

- Each of the Census tracts bordering the Watts Branch floodplain in Ward 7 and the Oxon Run floodplain in Ward 8 is ranked as having a high or moderate-to-high level of vulnerability to disasters by the CDC SVI. The median SVI Score of Census tracts in Wards 7 and 8 intersecting 100-year floodplains is 0.829, while the District as a whole has a median SVI of 0.5029. Scores closer to 1.0 indicate higher vulnerability.
- Through adoption of the updated mapping, the number of structures in the 100-year floodplain drops by 52% (from 481 to 232), and the number of structures in the combined 100-year and 500-year floodplains drops by 24% (from 557 to 424). The immediate result is that it will remove the federal flood insurance requirement from the homes that were removed from the 100-year floodplain, helping to make housing more affordable.

Timeline:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>DOEE</td>
<td>Conduct outreach via mailings and newspaper publication.</td>
</tr>
<tr>
<td>2022</td>
<td>DOEE</td>
<td>Submit Letter of Map Revision application (MT-2 Form) to FEMA.</td>
</tr>
</tbody>
</table>

Budget:

Total Estimated Cost: $3,000

Cost Breakdown by Phase / Action:
- $ 2,000 for mailing to property owners
- $ 1,000 for newspaper publication

Long Term Budget Requirements: None
Public Outreach and Input:

Past public outreach & engagement approach/actions:

- “Flood Risk Near Watts Branch” flyer with mention of LOMR was distributed at:
  - Juneteenth Community Resilience Fair (4800 Nannie Helen Burroughs Ave NE; June 2021)
  - Ward 7 canvassing activities near Faunteroy Center (canvassing in vicinity of 4800 Nannie Helen Burroughs Ave NE; monthly starting in October 2021 – Present)

Current/future public outreach & engagement approach/actions:

- A public notice will be published in a newspaper in accordance with 44 CFR 65.12. The updated floodplain maps will be posted for public viewing using the DC Flood Risk Tool (http://dcfloodrisk.org/). Residents will also be able to contact DOEE staff via phone or email to request a copy of updated map layers at their property. DOEE will also use mailers to affected addresses as a strategy to raise awareness.
- Ward 7 canvassing activities near Faunteroy Center (canvassing in vicinity of 4800 Nannie Helen Burroughs Ave NE; monthly starting in October 2021 – Present)
- In order for FEMA to adopt new floodplain maps for the District or any community in the United States, the new maps must be created according to standard methodologies. These standard methodologies only allow maps to be based on historical flood risk, and by law, are not able to account for the likely increases in flood risk due to climate change. DOEE and agency partners will need to be careful about how this map update is conveyed – as DOEE expects flood risk in this area to increase as a result of more frequent and severe rainstorms. This could be a potentially confusing message as the map updates will show a decrease in flood risk, which only reflects a decrease in the risk as historically calculated and does not account for climate change induced risks.

What were the Public Comments of relevance to this Action?

Public Comments on this Action Plan from July/Aug 2022

- From the DC Commission on Climate Change and Resilience: We offer the Commission’s support for proposed public outreach activity in the Oxon Run and Watts Branch mapping updates.
- From the Sierra Club: In Actions 7.3 & 7.4, Sierra Club questions how the U.S. Army Corps and the DC Silver Jackets team — those responsible for the updated maps — define “historical flooding;” and what year constitutes the cut off for historical? Also, for Watts Branch, how does more accurate modeling necessarily lead to a decrease in the number of properties in the floodplain? Can it not also conceivably result in an increase? Sierra Club understands a smaller number, if accurate, is desirable because it means that fewer houses will be burdened with costs associated with the federal flood insurance requirement or other floodproofing costs.
- From Sandra Knight: If the SFHA is smaller, it will be extremely important that those outside of the SFHA still get insurance, particularly since the new FIRMS is communicating that the "real" risk is the BFE plus 2 feet. Need some way to reconcile so homeowners are not left without insurance or believe they are not at risk. Insurance outside the SFHA is affordable and homeowners should be encouraged to purchase.
Overview and Implementation Strategy:

To better understand the flood risk in the Oxon Run area, the U.S. Army Corps of Engineers and DC Silver Jackets team conducted modeling and mapping to capture the flow of water more accurately throughout the watershed. As a result of this effort, the District now has access to flood risk maps that are more accurate than the existing Flood Insurance Rate Maps (FIRMs) produced by FEMA.

The goal of this action is to update the FEMA FIRMS for the Oxon Run area to be more accurate based on the latest modeling and mapping. DOEE intends to apply to FEMA for a Letter of Map Revision (LOMR) to officially update the FEMA FIRMs for the area.

Impacted City Ward/ANC:

- Ward 8
- ANC 8B, 8C, 8D, 8E

Lead Agency:

- DOEE

Supporting Agencies, Roles/Commitments:

- DOEE
- FEMA (review of LOMR application and revision of FIRMs)
- U.S. Army Corps of Engineers (potential revision of modeling to achieve “tie-in” with Prince George’s County, MD maps)

Impact of this Effort on Task Force Goal:

- This effort updates flood maps using more accurate modeling. It bolsters flood readiness by providing a more accurate depiction of areas most at risk for flooding. The updated maps will also reduce the financial impact of federal insurance requirements by reducing the number of properties in the floodplain. Updated and more accurate modeling does not always reduce the number of properties in a floodplain, but in this case it does.

Historical Context:

- To better understand the flood risk in the Oxon Run area, the U.S. Army Corps of Engineers Silver Jackets team conducted modeling and mapping to capture the flow of water more accurately throughout the watershed.
- This modeling and mapping project was initiated to support a proposed stream naturalization project by producing a more accurate depiction of existing conditions.
Action Plan
Category 7 – Mapping and Modeling
Action 7.4 – Update Oxon Run Flood Insurance Rate Maps

**Equity:**
How does this action assist vulnerable communities?

The underlying reason for this action is to provide the best and most accurate data to District residents. The action does have an equity impact as the area that needs to be updated is also an area with high social vulnerability on the Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI).

- Each of the Census tracts bordering the Watts Branch floodplain in Ward 7 and the Oxon Run floodplain in Ward 8 is ranked as having a high or moderate-to-high level of vulnerability to disasters by the Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI). The median SVI Score of Census tracts in Wards 7 and 8 intersecting 100-year floodplains is 0.829, while the District as a whole has a median SVI of 0.5029. Scores closer to 1.0 indicate higher vulnerability.
- Through adoption of the updated mapping, the number of structures in the 100-year floodplain drops by 38% (from 89 to 55), and the number of structures in the combined 100-year and 500-year floodplains drops by 42% (from 146 to 85). The immediate result is that it will remove the federal flood insurance requirement from the homes that were removed from the 100-year floodplain, helping to make housing more affordable.

**Timeline:**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>DOEE</td>
<td>Coordinate with Prince George’s County, MD to assess interest in coordinated LOMR application.</td>
</tr>
<tr>
<td>2022</td>
<td>USACE</td>
<td>Potentially revise modeling to achieve “tie-in” with Prince George’s County, MD maps or adjust timeline of update to synchronize with the County’s map update schedule.</td>
</tr>
<tr>
<td>2023</td>
<td>DOEE/USACE</td>
<td>Perform GIS analysis to identify addresses of District residents that may be affected by the map update.</td>
</tr>
<tr>
<td>2023</td>
<td>DOEE</td>
<td>Conduct outreach via mailings and newspaper publication.</td>
</tr>
<tr>
<td>2023</td>
<td>DOEE</td>
<td>Submit Letter of Map Revision application (MT-2 Form) to FEMA.</td>
</tr>
</tbody>
</table>
Action Plan
Category 7 – Mapping and Modeling
Action 7.4 – Update Oxon Run Flood Insurance Rate Maps

Budget:
Total Estimated Cost: $3,000

Cost Breakdown by Phase / Action:
- $2,000 for mailing to property owners
- $1,000 for newspaper publication

Long Term Budget Requirements: None

Public Outreach and Input:
Past public outreach & engagement approach/actions:
- N/A

Current/future public outreach & engagement approach/actions:
- A public notice will be published in a newspaper in accordance with 44 CFR 65.12. The updated floodplain maps will be posted for public viewing using the DC Flood Risk Tool (http://dcfloodrisk.org/). Residents will also be able to contact DOEE staff via phone or email to request a copy of updated map layers at their property. DOEE will also use mailers to affected addresses as a strategy to raise awareness.
- In order for FEMA to adopt new floodplain maps for the District or any community in the United States, the new maps must be created according to standard methodologies. These standard methodologies only allow maps to be based on historical flood risk, and by law, are not able to account for the likely increases in flood risk due to climate change. DOEE and agency partners will need to be careful about how this map update is conveyed – as DOEE expects flood risk in this area to increase as a result of more frequent and severe rainstorms. This could be a potentially confusing message as the map updates will show a decrease in flood risk, which only reflects a decrease in the risk as historically calculated and does not account for climate change induced risks.

What were the Public Comments of relevance to this Action?
Public Comments on this Action Plan from July/Aug 2022
- From the DC Commission on Climate Change and Resilience: We offer the Commission's support for proposed public outreach activity in the Oxon Run and Watts Branch mapping updates.

- From the Sierra Club: In Actions 7.3 & 7.4, Sierra Club questions how the U.S. Army Corps and the DC Silver Jackets team — those responsible for the updated maps — define “historical flooding,” and what year constitutes the cut off for historical? Also, for Watts Branch, how does more accurate modeling necessarily lead to a decrease in the number of properties in the floodplain? Can it not also conceivably result in an increase? Sierra Club understands a smaller number, if accurate, is desirable because it means that fewer houses will be burdened with costs associated with the federal flood insurance requirement or other floodproofing costs.
Action Plan
Category 8 - Flood Mitigation Planning and Coordination
Action 8.1 - Update DC Silver Jackets MOU

Overview and Implementation Strategy:
The DC Silver Jackets Team, composed of District, federal, and regional organizations, is dedicated to working collaboratively in developing and implementing solutions to flood hazards by combining available agency resources, which include funding, programs, and technical expertise.

The District formalized its Silver Jackets team in 2014 through an interagency Memorandum of Understanding (MOU) currently signed by 13 federal and District agencies. However, the full team extends well beyond these agencies with meetings often attended by 20 or more agency partners.

The goal of the DC Silver Jackets’ MOU is to establish and strengthen intergovernmental federal and District partnerships as a catalyst in developing and implementing comprehensive, resilient, and sustainable solutions to the District’s flood hazard challenges. It is therefore important to include all of the participating District agencies as signatories in the updated MOU.

Impacted City Ward/ANC:
- All Wards

Lead Agency:
- DMOI (coordinate routing of MOU)

Supporting Agencies, Roles/Commitments:
- DOEE, USACE, and HSEMA (prepare MOU updates)

Background:
Impact of this Effort on Task Force Goal:
The effort would increase flood mitigation planning and coordination by engaging all participating District agencies as DC Silver Jackets members.

Historical Context:
The current MOU was signed in 2014 with 13 signatories (listed below):
- DC government agencies
  - Department of Energy and Environment (DOEE)
  - D.C. Homeland Security and Emergency Management Agency (HSEMA) D.C.
  - Office of Planning (OP)
  - Deputy Mayor for Public Safety and Justice (DMPSJ)
- Federal agencies
  - U.S. Army Corps of Engineers (USACE), Baltimore District
  - U.S Federal Emergency Management Agency (FEMA), Region III
  - National Park Service (NPS)
  - National Oceanic and Atmospheric Administration’s National Weather Service (NOAA/NWS)
  - U.S. Geological Survey (USGS)
Action Plan
Category 8 - Flood Mitigation Planning and Coordination
Action 8.1 - Update DC Silver Jackets MOU

- National Capital Planning Commission (NCPC)
- General Services Administration (GSA)
- District of Columbia National Guard
  - Regional agencies
    - DC Water and Sewer Authority (DC Water)

- The DC Silver Jackets recommends updating the MOU and including more participating agencies who have become active since the original 13 in 2014. These should include:
  - DC government agencies
    - DMOI (in place of current signatory DMPSJ)
    - DDOT
    - DISB
    - DPW
    - DOB
    - DPR
    - DGS
  - Federal agencies
    - JBAB
    - JBMHH- MDW
    - Navy Yard / NAVFAC
    - EPA
  - Regional agencies
    - MWCOG
    - WMATA
  - Academia and Community-Based Organizations (CBO’s) to be determined / considered for recommendation

Equity:
How does this action assist vulnerable communities?

By bringing in the perspective, resources, and knowledge of multiple agencies we can be more likely to respond to the varied needs of our community.

Timeline:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DOEE</td>
<td>• Include MOU Update as agenda item for DC Silver Jackets quarterly meeting. Make first draft of revisions.</td>
</tr>
</tbody>
</table>
|             | DMOI               | • Coordinate signatures and OGC review from all participating DC agencies  
|             |                    | • Coordinate Press Release |
|             | USACE              | • Update Silver Jackets Website |
Action Plan
Category 8 - Flood Mitigation Planning and Coordination
Action 8.1 - Update DC Silver Jackets MOU

Budget:
Total Estimated Cost: N/A (Staff Time)

Public Outreach and Input:
Past public outreach & engagement approach/actions:
  • N/A

Current/future public outreach & engagement approach/actions:
  • N/A

What were the Public Comments of relevance to this Action?
  • N/A
Overview and Implementation Strategy:

The goal of this action is to improve the D.C. Drainage Committee by developing a Memorandum of Agreement (MOA) between all participating agencies. The Drainage Committee is an informal body of government staff from several District agencies, namely DOEE, DDOT, DC Water, and DOB, that meets on an ad hoc basis to document, investigate, and find resolutions for flood and drainage complaints submitted by District residents. If an agency receives a complaint that it is not able to address, they can refer it to the Drainage Committee for further review or investigation. Typical complaints include standing water in alleys or on sidewalks, clogged storm drains that cause flooding in nearby properties, runoff from nearby properties during or post construction, and sinkholes from suspected underground streams or broken pipes.

For standard complaints, this existing process works well. Many complaints can be handled quickly and have clear solutions. However, there have recently been more complex cases that require significant long-range investment (rather than a quick fix like cleaning a catch basin), leaving District agencies unsure who has authority to act. This disconnect can lead to communication delays with residents.

To improve the effectiveness of the Drainage Committee, this action plan calls for the development of a Memorandum of Agreement between all relevant agencies. The MOA would:

1. Clearly outline which agency is responsible in various drainage complaint scenarios.
2. Identify drainage complaint scenarios where private citizens are responsible.
3. Establish clear communication protocols between agencies to include:
   b. A process for elevating a complaint to senior leadership if responsibility cannot be resolved by agency staff.
4. Establish standard operating procedures for:
   a. Investigating complaints.
   b. Tracking progress of complaint resolution.
   c. Ensuring complaints that require street-scale or neighborhood-scale solutions are added to relevant agency infrastructure and other long-range plans.

Impacted City Ward/ANC:

- All Wards

Lead Agency:

- DC Water

Supporting Agencies, Roles/Commitments:

- DOEE
- DDOT
- DOB
- DPW
Background:

Impact of this Effort on Task Force Goal:

- This effort would allow District agencies to more quickly and effectively respond and resolve interior flooding and drainage issues experienced by residents.

Historical Context:

- District residents submit their complaints through a myriad of government access points, including: 311, elected officials, Metropolitan Police Department (MPD), DC Water (“Report a Problem”), DOEE, DDOT, and other agencies. Each agency uses a different system for tracking the resolution of a complaint.
- The “responsible” agency for resolving a complaint is not obvious to the public and often complaints are sent initially to the wrong agency. While most complaints ultimately get to the right place, the process can take time and frustrate residents.
- In some complex complaints, there is disagreement among District agencies as to which agency is responsible. This leads to further delays and in some cases inaction.
- In some complex complaints, there is no available quick-fix, and the solution is a large street-scale or neighborhood scale infrastructure project. There is not a clear process for the Drainage Committee to add these complaints to relevant agency infrastructure improvement lists and other long-range plans.

Equity:

How does this action assist vulnerable communities?

- By improving the Drainage Committee processes, residents would be more likely have their needs met and reduce the risk of flood damage in their homes. This would reduce the cost of repair, health issues, and displacement. These issues would be most damaging to low-income residents.
- Interior flooding and drainage issues are something that can happen anywhere in the District, but when it does occur, it has greater impacts for low-income residents who are least able to handle the costs of repair and clean up.
- While the goal is to improve the process to resolve drainage complaints for all, the outcome is that a more vulnerable resident with a drainage issue would receive greater benefit than a less vulnerable resident with a similar issue.
Action Plan
Category 8 – Flood Mitigation Planning and Coordination
Action 8.2 – Improvements to DC Drainage Committee Processes

Timeline:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DC Water</td>
<td>Convene a series of meetings for all relevant agencies to draft the MOA as described above.</td>
</tr>
<tr>
<td>2024</td>
<td>DC Water / DOEE / DDOT / DOB / DPW</td>
<td>Sign the MOA</td>
</tr>
<tr>
<td>2024</td>
<td>DOEE</td>
<td>Develop communication materials for residents that can be shared with other agencies describing the responsibilities and the process of drainage complaint resolution.</td>
</tr>
<tr>
<td>2024</td>
<td>DC Water / DOEE / DDOT / DOB / DPW</td>
<td>Consider budget enhancement requests to provide more staff and/or dedicated annual funding to help resolve drainage complaints.</td>
</tr>
</tbody>
</table>

Budget:

Total Estimated Cost: N/A

Long Term Budget Requirements: There may be a request for funding after the completion of the MOA, which would enable the District to more quickly handle complaints. Funding for street-scale or neighborhood-scale solutions would occur through separate capital budget requests that should be included annually in agency budgets and the “List of Infrastructure Projects” described in the Action Plan.

Public Outreach and Input:

Past public outreach & engagement approach/actions:

- N/A

Current/future public outreach & engagement approach/actions:

- Once the MOA is complete, DOEE would take the lead on producing standardized outreach materials and messages that can be used by all agencies to explain the process for filing and resolving drainage complaints.

What were the Public Comments of relevance to this Action?

Public Comments on this Action Plan from Oct - Dec 2022

- From the Clean Water Committee, Sierra Club DC Chapter:
  This plan is linked directly to 7.1 and the Sierra Club’s recommendation for a long-term plan for managing internal stormwater to mitigate flood risk. Although the intent of this plan appears to be improving coordination among District agencies to address real-time emergencies and
flooding conditions, the Sierra Club recommends that this plan be extended to include an interagency forward looking planning process to take the interior flooding mapping results from 7.1 and evaluate them for long term infrastructure design and planning. DC Water is identified as the lead for this plan; however, DOEE should be identified as another lead to facilitate coordination with longer term infrastructure design for the District.
Overview and Implementation Strategy:

The goal of this action is to finalize a plan to erect a closure across 2nd Street SW, near the intersection of P Street SW, should forecasts predict a major riverine or coastal flood event in the District. Right now, there is no designated plan in place or specified agency responsible for ensuring the closure is in place. If not erected, large portions of Southwest DC could be flooded, including homes, public housing, and other critical facilities.

Long Term

The USACE is currently working on a new risk assessment for the entire Potomac Levee System (including the Potomac Park Levee, and the Closures at 23rd St NW, 17th ST NW, and P Street SW). This assessment should be available in October 2023. The assessment may recommend that USACE build a more permanent closure at P Street SW. The District government would likely need to provide some funding in this scenario.

If the USACE risk assessment does not propose that the USACE itself construct a more permanent levee closure, the District should design and construct a more permanent system, such as a post and panel closure system like the 17th Street Levee Closure. This project may be eligible for FEMA funding, but if not, the Task Force recommends that such a project be prioritized for funding by District government. Regardless of who constructs the permanent closure (USACE or a District contractor), it would ultimately be operated by a District agency.

Medium Term

While a more permanent solution is being considered, Task Force Members recommend that the District contract out the services of constructing a flood proof barrier at P Street SW. This can be implemented more quickly than the alternative of procuring materials and hiring necessary staff to build and maintain equipment necessary for a levee closure. A commonly used solution in these scenarios is a sandbag closure, which is low-tech, and able to handle the subtle elevation changes of the street section (swales, curbs, road crest, bike lane protection).

Short Term

Should there be a riverine or coastal flood before a contract can be executed, the District should attempt to expedite the contracting process using emergency powers given by a Mayoral "state of emergency" declaration. If that is not feasible, the District should contact the USACE for help, who can provide unfilled sandbags, a bag filling machine, and technical expertise on site to direct the placement of the sandbags. USACE cannot provide sand or manpower. HSEMA may also call on Serve DC for manpower, and DDOT and DPW for assistance with heavy machinery, jersey barriers, and procurement of sand.

Additional Action Required by Fort McNair

The discussion above focuses on the closure that goes across District right of way on 2nd Street SW. In order for that closure to be effective, Fort McNair must seal the entry gate on P Street SW nearest 2nd ST SW. Fort McNair is solely responsible for this portion of the closure and appears to have plans that involve jersey barriers, sandbags, and machinery that can place them both. HSEMA should continue to coordinate with Fort McNair to ensure they have proper plans and materials.
Action Plan
Category 8 – Planning and Coordination
Action 8.3 – Finalize Plans for P Street Levee Closure

Impacted City Ward/ANC:
- Ward 6 (Areas within the 500-year floodplain)
- Ward 2 (Areas within the 500-year floodplain)

Lead Agency:
- DMOI

Supporting Agencies, Roles/Commitments:
- DPW
- FEMA
- HSEMA
- DOEE
- DDOT
- DGS
- ServeDC
- USACE
- DOD – Fort McNair

Background:

Impact of this Effort on Task Force Goal:
- The effort would help protect District residents from a 500-year coastal or riverine flood.

Historical Context:
- The District is vulnerable to three types of flooding: riverine, coastal, and interior. Riverine and coastal floods occur when water overflows the banks of the Potomac or Anacostia rivers due to heavy rains in the Potomac Watershed, or because of storm surge from tropical storms. Interior floods, also known as flash floods or stormwater floods, occur when heavy rainfall overpowers the stormwater sewer system.
- Some, but not all, of the District’s flood risk is mitigated by two primary levee systems: the Potomac Park Levee System (which includes the 17th Street Levee Closure and P Street SW closure) and the Anacostia River Levee System. These levee systems reduce risk from riverine and coastal flooding. They do not reduce the risk of interior flooding.
- The P Street SW Levee Closure is part of the Potomac Park Levee System. While the 17th Street Levee Closure prevents water from flowing North from the Tidal Basin into the city, the P Street Levee Closure prevents water from flowing north from the Anacostia River, through Fort McNair, and entering the city.
- The P Street levee closure does not need to be constructed during a 100-year flood, as the elevation at P Street is high enough to prevent water from flowing past. However, it does need to be constructed if the District were to expect a 500-year flood or worse.
- Because the P Street Levee Closure would be installed on District owned property, it must be installed and maintained by a District Agency. The 17th Street Levee Closure is on NPS property, so the NPS operates and maintains it, even though it also offers protection to District residents.
**Action Plan**  
**Category 8 – Planning and Coordination**  
**Action 8.3 – Finalize Plans for P Street Levee Closure**

- The P Street Levee Closure should be installed when the Wisconsin Avenue gauge is forecast to exceed a 23ft stage WMLW. This temporary emergency closure is approximately 90ft in length, is constructed to an elevation of 16.6ft (NAVD88) and requires no more than two feet of height. This closure insures the minimum required freeboard of two feet for the Congressionally-authorized level of protection for the levee system.

- The District does not currently have a way to fill sandbags, or store its components (sand, bags, sand filling machine). The USACE recommends sandbags not be stored full as it reduces their effectiveness and useful life, which means that bags must be filled every time they are needed, requiring either specialized equipment or a significant number of staff.

**Equity:**  
**How does this action prioritize equity and residents who are most impacted?**

A large portion of the area that would be flooded if the P Street SW closure were not constructed includes low-income families, and public housing facilities – in other words a segment of the population who are least equipped to financially recover after a flood. This action would protect these residents from major flood events.

Current plans for the P Street Levee Closure call for a barrier to be erected across 2nd Street SW, just south of P Street SW. Permanent plans should consider moving the construction of the barrier further south to R Street SW, so that the barrier can protect additional housing and an electric substation.

**Timeline:**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DOEE / DDOT</td>
<td>Draft a Scope of Work for a contractor to install the P Street Closure if necessary.</td>
</tr>
<tr>
<td></td>
<td>DDOT</td>
<td>Release solicitation and award contract.</td>
</tr>
<tr>
<td></td>
<td>USACE</td>
<td>Complete Potomac Park Levee System Risk Analysis</td>
</tr>
<tr>
<td></td>
<td>HSEMA</td>
<td>Convene relevant agencies to decide on next course of action based on USACE analysis. Includes identifying funding for permanent solution, which agency will oversee its construction, and which agency will oversee its emergency installation when necessary.</td>
</tr>
<tr>
<td></td>
<td>HSEMA</td>
<td>Work with Fort McNair to ensure their plans for their gate closure are up to date.</td>
</tr>
<tr>
<td>2023-2028</td>
<td>DDOT/HSEMA</td>
<td>Manage P Street Levee Closure contract, call contractor into action when necessary. Solicit a replacement contract in 2028 if a long-term solution is not yet in place.</td>
</tr>
</tbody>
</table>
Action Plan
Category 8 – Planning and Coordination
Action 8.3 – Finalize Plans for P Street Levee Closure

Budget:

Total Estimated Cost: $150,000 for medium term solution; $5 to $30 million for long term solution

Cost Breakdown by Phase / Action:
- $150,000 to pay a contractor each time the P Street Levee closure is constructed.
- $5 to $30 million from local capital funds or federal grants to pay for a more permanent closure structure.

Long Term Budget Requirements:
- Medium Term – funds would need to be available every year in case the closure needs to be constructed.
- Long Term – a one-time payment of $5-$30 million would be required to install a more permanent closure. Once a more permanent system is constructed, the responsible District agency should perform yearly exercises to construct the closure and inspect materials. This would only require staff time.

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Funding Source</th>
<th>Amount to be Requested</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every Year starting in 2023</td>
<td>HSEMA</td>
<td>Local Budget – Emergency Funds</td>
<td>~$150,000</td>
<td>Funding to pay a contractor to install levee closure once a year</td>
</tr>
<tr>
<td>2026</td>
<td>DDOT</td>
<td>Local Capital Funds / Federal Grants</td>
<td>$5 million to $30 million</td>
<td>Funding to support a more permanent post and panel closure system</td>
</tr>
</tbody>
</table>

Public Outreach and Input:

Past public outreach & engagement approach/actions:
- N/A

Current/future public outreach & engagement approach/actions:
- N/A

What were the Public Comments of relevance to this Action?
- N/A
Action Plan
Category 8 – Flood Mitigation Planning and Coordination
Action 8.4 – Conduct Yearly Interagency Flood Risk Outreach

Overview and Implementation Strategy:

This Action aims to coordinate annual outreach efforts amongst the various Task Force Agencies relating to flood risk and mitigation messaging. This would involve annual or semi-annual interagency meetings to identify upcoming flood outreach campaigns, and coordinate messaging.

Impacted City Ward/ANC:

- Wards 2, 3, 4, 6, 7, 8 all have homes in the FEMA-designated 100 year and 500-year floodplains. Wards 7 and 8 are the current focus areas as 98% of the District’s single-family homes in the FEMA 100-year floodplain are located in those two wards. Targeted outreach may expand if the Integrated Flood Model identifies additional areas of vulnerability to flooding.
- Citywide as there are flood vulnerable areas (from interior rainfall flooding) that are not in FEMA mapped floodplains, and flood vulnerable areas in the District are expected to increase with climate change.

Lead Agency:

- DOEE

Supporting Agencies, Roles/Commitments:

- HSEMA
- DC Water
- DISB
- OPC
- DC Commission on Climate Change and Resilience

Background:

Impact of this Effort on Task Force Goal:

- This Task Force Action Item aims to create more efficient and effective flood risk messaging campaigns across the various Task Force Agencies.

Historical Context:

District Agencies including DISB, HSEMA, and DOEE have historically organized and led various flood risk messaging programming (included below). While each of these initiatives are helpful for District residents, proactively coordinating outreach programming would allow agencies to streamline these outreach efforts and provide a unified approach for residents to understand who to turn to for their flood risk needs.

- DISB 2021 Flood and Water Damage Forum: hosted by DISB with panelists from HSEMA and DOEE, this forum occurred 4 times in 2021 on September 23, June 24, December 10. Topics included protecting homes and personal property from water damage or flooding due to extreme weather, and available resources and insurance products.
- Ready DC Flood webpage: an initiative led by HSEMA with assistance from DOEE, this project
Aims to establish an online portal for District residents to access flood risk mitigation assistance and programs.

- DC Flood Awareness Week: this annual programming led by DOEE began in 2021 and involved participation from HSEMA and DISB. The Flood Week supports events across the District, working with federal, state, and local agencies to inform Washingtonians about flood risk and flood preparedness. Future messaging can include emphasis on increased flood risk due to climate change.

- WMATA advertising campaign: this campaign was initially led by DOEE to raise awareness of flood risk and flood insurance among District residents. After engaging with WMATA and their advertising representatives, DOEE determined that it would be beneficial to coordinate efforts with DISB and HSEMA to join funding and messaging to more effectively target residents living in Wards 7 & 8 along Watts Branch and Oxon Run. With more proactive planning amongst the agencies, the hope is that future years would continue to improve in targeted outreach efforts.

- Weather radio and water alarm distribution: DOEE and HSEMA have begun coordinating efforts to distribute free weather radios and water alarms to residents located in the 100-year and 500-year floodplains. The goal is to conduct outreach regarding this program at a sufficient tempo to complete distribution of supplies by January 1st, 2025. DOEE procured the radios and created a list of addresses for residences within the 100-year and 500-year floodplains. HSEMA is providing secure storage of the radios and has begun delivery of 1,000 weather radios and 1,000 water alarms through house-to-house pedestrian canvassing to the list of addresses provided by DOEE.

- Following the September 10, 2020, flood, OPC focused on educating water consumers on available resources and providing case management services for consumers with flood remediation complaints. OPC received twenty-two (22) complaints from flood victims, primarily from Wards 4 and 5. OPC's Water Services Division also hosted an outreach event, "How to Prepare for Flooding," on April 27, 2021, with a panel of experts from DC Water, DDOT, DOEE, HSEMA, and DISB. The event's purpose was to take a proactive outreach approach in educating the public on how to protect one's property in flooding events, available resources, and the government's response to flooding in the District.

- DOEE has initiated focused outreach in the Watts Branch and Oxon Run floodplain areas of Wards 7 & 8. This includes, but is not limited to, attending monthly meetings with the Ward 7 Resilience Hub at the Faunteroy Center, and assembling a focus group with Friends of Oxon Run in Ward 8 to seek local feedback on flood risk communication.
**Action Plan**

**Category 8 – Flood Mitigation Planning and Coordination**

**Action 8.4 – Conduct Yearly Interagency Flood Risk Outreach**

**Equity:**

*How does this action prioritize equity and residents who are most impacted?*

This action streamlines flood risk communication and outreach to District residents in the most socially and flood vulnerable communities and make it easier for residents to understand where to receive the help they need, whether for flood insurance information, mitigation programs, or assistance during a flood event.

- This outreach should be focused on the most flood vulnerable communities, many of whom are located near Oxon Run, Watts Branch and neighborhoods in Northeast frequently affected by rainfall flooding. These floodplains and surrounding neighborhoods are ranked as having a high or moderate-to-high level of vulnerability to disasters by the Centers for Disease Control and Prevention Social Vulnerability Index (CDC SVI). Because of these areas’ increased vulnerability, it is especially important that flood risk communication and messaging is reaching these historically overburdened populations.
  - Wards 7 and 8 contain 98% of all the single-family homes in DC’s 100-year floodplain.
  - Approximately 66% of housing units in Census tracts that include the flood-prone areas of Wards 7 and 8 are rented, and over 55% of the households in those areas are paying rent that exceeds the 30% of gross household income that HUD defines as affordable housing.
  - Over 90% of the residents in these wards are Black, compared to fewer than 50% of District residents overall. Within Wards 7 and 8, the highest concentration of people living in the floodplain are disproportionately located in Census Tracts with the greatest density of people of color.

- Coordinated outreach efforts should also include outreach to communities in flood prone areas whose primary language is not English. Continuous and sustained coordination with the Mayor’s Office for Latino Affairs, Mayor’s Office of Asian and Pacific Islander Affairs, and Mayor’s Office of African Affairs is also needed to broaden outreach to flood-vulnerable populations in their primary spoken language as well.

**Timeline:**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every Year Starting in 2023</td>
<td>DOEE</td>
<td>Convene an annual or semi-annual interagency coordinating meeting to align flood risk and mitigation related outreach efforts. Produce an outreach plan for the upcoming year 4 weeks after annual coordinating meeting.</td>
</tr>
<tr>
<td></td>
<td>HSEMA</td>
<td>Procure FEMA funding for annual outreach engagement efforts.</td>
</tr>
<tr>
<td></td>
<td>Various</td>
<td>Execute different actions. For example, DOEE would coordinate multiple agencies and sign a contract with WMATA advertising for bus placards. HSEMA would lead the delivery of weather radios.</td>
</tr>
</tbody>
</table>
Action Plan
Category 8 – Flood Mitigation Planning and Coordination
Action 8.4 – Conduct Yearly Interagency Flood Risk Outreach

Budget:

Total Estimated Cost: $0 for coordination, $70,000 for annual interagency outreach campaigns?

Cost Breakdown by Phase / Action:
- $0 Annual or semi-annual interagency meeting to coordinate outreach efforts
- $70,000 amongst the interagency cohort to execute coordinated outreach programming

Long Term Budget Requirements: Implementation requires continued investment of $70,000 per year for sustained, annual flood risk outreach efforts. This will include:
- $20,000 for WMATA advertising including targeting bus shelters within key flood focus areas
- $10,000 for mailing outreach materials to residents in the floodplain
- $12,000 for Flood Week event programming
- $13,000 for social media, local television and radio campaigns relating to flood risk and mitigation
- $15,000 for additional flood risk and mitigation outreach efforts with community partners

<table>
<thead>
<tr>
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<th>Funding Source</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Every Year starting in 2023</td>
<td>DOEE</td>
<td>Local Budget</td>
<td>$5,000</td>
<td>Funding to support District-wide outreach described above. Local match for Federal grant dollars.</td>
</tr>
<tr>
<td>Every Year starting in 2023</td>
<td>HSEMA</td>
<td>Local Budget</td>
<td>$5,000</td>
<td>Funding to support District-wide outreach described above. Local match for Federal grant dollars.</td>
</tr>
<tr>
<td>Every Year starting in 2023</td>
<td>DISB</td>
<td>Local Budget</td>
<td>$5,000</td>
<td>Funding to support District-wide outreach described above. Local match for Federal grant dollars.</td>
</tr>
<tr>
<td>Every Year starting in 2023</td>
<td>HSEMA DOEE</td>
<td>FEMA Grants</td>
<td>$55,000</td>
<td>Funding to support District-wide outreach described above. Will apply for funds from FEMA’s CAP and HMA programs.</td>
</tr>
</tbody>
</table>

Public Outreach and Input:

Past public outreach & engagement approach/actions:
- Previous outreach activities have been described above in the historical context section.

Current/future public outreach & engagement approach/actions:
- The previous outreach activities described in the historical context section could be re-used or refined. Additionally, every year it is the intent of this Action that at least the following activities should be conducted:
Action Plan
Category 8 – Flood Mitigation Planning and Coordination
Action 8.4 – Conduct Yearly Interagency Flood Risk Outreach

- Annual or semi-annual interagency coordinating meeting to align flood risk and mitigation related outreach efforts.
- Information Mailers for every home in the floodplain
- Flood Awareness Week
- Public Advertising Campaign on a specific issue (Flood insurance, Map changes, Flood risk awareness)

What were the Public Comments of relevance to this Action?

Public Comments on this Action Plan from July/Aug 2022

- From the DC Commission on Climate Change and Resilience:
  We request the Commission’s inclusion in the coordination of public outreach.

- From the Sierra Club:
  Action Plan 8.4 - Conduct Yearly Interagency Flood Risk Outreach is a prudent measure to maintain an effective program plan that is responsive to change. Sierra Club suggests that for 2023 the Interagency Flood Task Force should schedule quarterly meetings to permit finetuning of the Action Plan. Three actions for the Residential Resilience team remain incomplete, and four actions for the Governance & Coordination team are incomplete. Public comments will need to be received and reviewed for possible refinements to the overall action plan; and this is likely to extend into 2023. Illustrative of the additional work that may result is Sierra Club’s concern that the Flood Task Force needs to increase focus and scrutiny on progress toward plans to address interior flooding. This suggests that additional meetings should be considered to address this priority.
Action Plan
Category 8 – Flood Mitigation Planning and Coordination
Action 8.5 – Provide Additional Capacity via 311 for High Call Volumes

Overview and Implementation Strategy:

The goal of this action is to create a pathway for providing additional capacity via 311 to handle excess calls to DC Water during a flood event and for targeted damage assessment. In the past, flash floods have overwhelmed the District stormwater management system, causing hazardous backflow into structures. During these events, DC Water has received many calls from residents to report residential, business, and government properties being flooded. The number of calls received can overwhelm the staff of DC Water and create a higher risk of some residents not being able to reach anyone and/or not knowing who else to call. Creating a system where excessive calls can be routed into 311 would address this issue.

Additionally, understanding these situations and determining impact scope (extent and magnitude) of storm events has been difficult due to inconsistent and incomplete data captured by DC Water, OUC, HSEMA, and some councilmembers’ offices. Routing calls to 311 would help capture data in a single system, making it easier to consolidate with other agencies.

Ultimately, this action would create a secondary calling center that can capture data from residents if DC Water is unavailable.

Impacted City Ward/ANC:
- Wards 2, 3, 4, 6, 7, 8

Lead Agency:
- HSEMA

Supporting Agencies, Roles/Commitments:
- Office of the Chief Technology Officer (OCTO)
  - Design, and development new or connect existing information technology communication applications to compile scoping data/information and facilitate effective inspection and remediation.
  - Conduct a test of the information technology/communication application and exercise to validate OUC and DC Water’s personnel readiness to implement new procedures.
- DC Water
  - Implement new process to take call from resident and send surge calls to OUC.
  - DC Water “Report a problem” set to receive information from OUC system.
  - Data collected from the flood sensors can assist in the development of the Inundated Flood Model via agency coordination and buy-in.
- Office of United Communications (OUC)
  - Design, develop, deliver training for relevant OUC personnel on modification of existing establishment of new procedures.
  - Take on surge calls from DC Water in flood emergency incidents and events.
  - 311 call takers compile and share resident information with DC Water “Report Problems” system to track calls for residents.
**Action Plan**  
Category 8 – Flood Mitigation Planning and Coordination  
Action 8.5 – Provide Additional Capacity via 311 for High Call Volumes

**Background:**

**Impact of this Effort on Task Force Goal:**

- This effort would prevent fatalities, injuries and destruction of property if residents are able to report flooding accurately.

**Historical Context:**

- The September 10 flash flood impacted residential, business, and government properties as well as public space in each District quadrant. The preceding extreme weather hazard produced historic rainfall which culminated in ‘urban drainage’ flood type occurring in flood-prone (including nuisance) and non-traditional locations. The District’s storm water management system, as designed by the U.S. Army Corps of Engineers, was effectively unable convey the magnitude causing hazardous backflow into structures.
- Understanding the situation and determining impact scope (extent and magnitude) of the September 10th flood was difficult due to consistent and incomplete data captured by DC Water, OUC, HSEMA, and some councilmembers’ offices.
- HSEMA led an inter-agency project team, comprising key stakeholders to create a consolidated pathway for flood reporting.
- DC Water developed a system to share resident information to OUC/311to respond.
- Allowing OUC/311 call taker to received surge calls also helps to collect vital data and provides the District the ability to use that it for analysis, to protect residents, reach and respond faster and more effectively and develop future projects that would mitigate against flooding.

**Equity:**

**How does this action assist vulnerable communities?**

- An effective system would assist the most vulnerable social-economic areas within the District to provide fair awareness of flooding across the District, and fast response.
- District, and private agencies identify areas of improvement in call process and tracking resident date for timely flood response and recovery protocols.

**Timeline:**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>Interagency Agency Working Group</td>
<td>Develop 311 routing system.</td>
</tr>
<tr>
<td>2023</td>
<td>Interagency Agency Working Group</td>
<td>Test functionality of 311 routing system. After a successful test, automate when the routing system “turns on.”</td>
</tr>
</tbody>
</table>
Action Plan
Category 8 – Flood Mitigation Planning and Coordination
Action 8.5 – Provide Additional Capacity via 311 for High Call Volumes

Budget:

Total Estimated Cost: N/A (Funds already obtained)
Long Term Budget Requirements: N/A

Public Outreach and Input:

Past outreach & engagement approach/actions:
- N/A

Current/future public outreach & engagement approach/actions:
- N/A

What were the Public Comments of relevance to this Action?
- N/A
Overview and Implementation Strategy:

The goal of this action is to implement a standardized severe weather early warning system which can be used to alert residents of potential impacts to life and property before they occur. The District of Columbia currently utilizes a centralized warning system – AlertDC – to communicate ongoing impacts with relevant stakeholders, including District residents. The Flood Task Force can leverage the existing AlertDC framework managed by the HSEMA as an early warning system if a Standard Operating Plan (SOP) with set thresholds for when flood related alerts are sent, and key messaging is developed.

Impacted City Ward/ANC:

- All Wards

Lead Agency:

- HSEMA

Potential Supporting Agencies, Roles/Commitments:

- EOM - Review and approval of public messaging and warning system framework.
- DC Water, DGS, DPW, OUC - Assist the messaging development process.
- Additional agencies may choose to centralize their messaging through AlertDC and would therefore have an active role in the implementation of this action plan.

Background:

Impact of this Effort on Task Force Goal:

The warning system, through proper socialization, would allow for residents to be prepared to secure life and property with adequate communication funneled from key District stakeholders. The more time residents have to prepare as individuals, the better prepared we are as a District to mitigate the impacts of severe weather and flood events.

Historical Context:

AlertDC is only one of several alert systems which currently operate in the District of Columbia. The table below provides more information on the types of alerts residents may receive during a severe weather event.
Action Plan
Category 9 - Flood Emergency Planning, Response, and Recovery
Action 9.1 – Implement a Severe Weather Early Warning System

<table>
<thead>
<tr>
<th>Warning System</th>
<th>Owning Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alert DC</td>
<td>Metropolitan Washington Council of Governments</td>
</tr>
<tr>
<td></td>
<td>o Alert Issuing Agency: HSEMA/EOM</td>
</tr>
<tr>
<td>Wireless Emergency Alerts (WEA)</td>
<td>Integrated Public Alert and Warning System (IPAWS)</td>
</tr>
<tr>
<td></td>
<td>o Alert Issuing Agency: HSEMA</td>
</tr>
<tr>
<td>Emergency Alert System (EAS)</td>
<td>Federal Emergency Management Agency (FEMA)</td>
</tr>
<tr>
<td></td>
<td>Federal Communications Commission (FCC)</td>
</tr>
<tr>
<td></td>
<td>National Oceanic and Atmospheric Administration (NOAA)</td>
</tr>
<tr>
<td>National Oceanic and Atmospheric Administration</td>
<td>NOAA/National Weather Service</td>
</tr>
<tr>
<td>(NOAA) Weather Radio</td>
<td></td>
</tr>
<tr>
<td>National Warning System (NAWAS)</td>
<td>Federal Emergency Management Agency (FEMA)</td>
</tr>
</tbody>
</table>

Equity:
How does this action assist vulnerable communities?

The early warning system allows all to prepare for the impacts of severe weather and flood events. The better equipped residents are to secure their property with adequate notice, the less likely they are to face the financial or livelihood impacts of damage from severe weather. This would have more profound impacts on low-income residents and residents in the floodplain, primarily found in Wards 7 and 8, who can least afford to deal with financial impacts or damage.

Timeline:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>DC HSEMA</td>
<td>Assess current AlertDC messaging framework. Work with the DC Flood Task Force to determine key stakeholders messaging and messaging for different forms of severe weather.</td>
</tr>
<tr>
<td>2024</td>
<td>DC HSEMA</td>
<td>Finalize severe weather/flood-specific messaging SOP; socialize to DC HSEMA Operations leadership and DC Flood Task Force stakeholders. Implement severe weather/flood-specific SOP.</td>
</tr>
<tr>
<td>2025</td>
<td>DC HSEMA</td>
<td>Review period for use of the severe weather/flood-specific messaging SOP.</td>
</tr>
</tbody>
</table>
Action Plan
Category 9 - Flood Emergency Planning, Response, and Recovery
Action 9.1 – Implement a Severe Weather Early Warning System

Budget:

Total Estimated Cost: TBD (less than $20,000)

The integration of early severe warnings into AlertDC may require additional socialization to District residents for buy-in and comprehension of the system. There may be costs associated with public messaging that would be considered during the second year (2024) of plan implementation.

Long Term Budget Requirements: N/A

HSEMA pays for AlertDC through a shared Everbridge contract managed by the Metropolitan Washington Council of Governments. As the annual subscription is already fulfilled through HSEMA, there would be no additional cost to use AlertDC,

Public Outreach and Input:

Past public outreach & engagement approach/actions:
- N/A

Current/future public outreach & engagement approach/actions:
- N/A

What were the Public Comments of relevance to this Action?
- N/A
Action Plan
Category 9 - Flood Emergency Planning, Response, and Recovery
Action 9.2 - Update Emergency Flood Response Procedures

Overview and Implementation Strategy:

The goal of this action is to coordinate flood response and recovery procedures, and to clarify agency roles and responsibilities when flooding occurs. HSEMA, in coordination with other District agencies and quasi-governmental organizations, leads the District’s preparedness planning, training, and exercise actions.

Flood preparedness planning includes the development and testing of the District’s Emergency Operations Plan, and its mission and service content. The implementation strategy that HSEMA uses to improve and enhance flood response and recovery in the District is to use the Homeland Security Exercise and Evaluation Program to inform and enhance District-wide flood planning products and preparedness. Exercise evaluation assesses the ability to meet objectives and capabilities by documenting strengths, areas for improvement, capability performance, and corrective actions in an After-Action Report/Improvement Plan (AAR/IP). Through improvement planning, HSEMA uses the corrective actions needed to improve plans, build and sustain capabilities, and maintain readiness.

In September 2022, HSEMA sponsored a series of exercises designed to test coordination and communication of efforts related to the threat of flooding in the city. District agencies as well as Federal, military, regional and private partners participated.

- On Tuesday, Sept. 13: HSEMA hosted a discussion-based Tabletop Exercise concerning operations in the first few days after a flooding event. The group reviewed:
  - Damage Assessment mission, including “substantial damage assessment” required under the National Flood Insurance Program
  - Health inspections of restaurants, food stores, and other establishments that have a Health Department license to operate
  - Post-Emergency Canvassing Operations
  - Debris Management mission
- On the following Tuesday, Sept. 20: HSEMA hosted a second Tabletop Exercise to review a plan for “just-in-time” mitigation and flood control efforts, including activation of flood control devices; information sharing about weather and flooding forecasts, and protection of infrastructure and essential services.

Based on these exercises, HSEMA intends to produce an After-Action Report. HSEMA also intends to prepare a more detailed functional exercise. Information from the three exercises and their reports would then be used to update HSEMA’s flood emergency response procedures.

Impacted City Ward/ANC:
- All Wards

Lead Agency:
- HSEMA
Supporting Agencies, Roles/Commitments:

- **DOEE**
  - Participant in the flood exercise and NFIP substantial damage assessment
- **DDOT**
  - Participant in the flood exercise and traffic management
- **DOH**
  - Participant in the flood exercise and health inspections
- **Department of Consumer and Regulatory Affairs**
  - Participant in the flood exercise and building inspections.
- **DC Water**
  - Participant in the flood exercise and emergency response
- **DPW**
  - Participant in the flood exercise and debris Management
- **DC HMS, USACE, USGS, NWS, NPS, FEMA Region 3, Naval District Washington, and Military District Washington**
  - Participant in the flood exercise

**Background:**

**Impact of this Effort on Task Force Goal:**

- This effort would identify best practices and procedures to assess efficiency and effectiveness of establish protocols and agency roles. Through this assessment, HSEMA intends to develop After Action Reports to better identify areas of improvement and initiate actionable steps to solve those areas. This would strengthen flood response protocols, agency roles and inter-agency coordination in the event of an incident.

**Historical Context:**

- The September 10th, 2020, flooding incident highlighted the importance of flooding response procedures and agency roles to be tested and assessed for areas of improvement. HSEMA conducted two flood exercises in 2022 which allowed the District to explore the many options to alleviate flooding impacts such as activation of flood control devices: information sharing about weather and flooding forecasts, and protection of infrastructure and essential services. Another benefit of the exercises was for staff from different agencies to familiarize themselves with their counterparts to make communication more effective during an incident.

- The graphic below summarizes the 3 steps in an emergency response to a flood.
Equity:
How does this action assist vulnerable communities?

Using best practices, District, federal and military agencies will be able to identify areas of improvement in flood response and relief protocols, focusing on impacts to vulnerable communities. Taking actionable steps to alleviate those areas and strengthen the efficiency and effectiveness to those who are impacted from flooding events will reap the benefit of a stronger District flood response.

Timeline:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>HSEMA and participating agencies</td>
<td>Planning Meetings between HSEMA and District partners to plan exercises and objectives, discuss existing plans/procedures. Two-day discussion-based tabletop exercise: Day 1 Short-term recovery, Day 2 Immediate, “just in time” mitigation</td>
</tr>
<tr>
<td>2023</td>
<td>HSEMA and participating agencies</td>
<td>Functional Exercise, update emergency plans and procedures.</td>
</tr>
</tbody>
</table>
**Action Plan**

Category 9 - Flood Emergency Planning, Response, and Recovery

Action 9.2 - Update Emergency Flood Response Procedures

**Budget:**

**Total Estimated Cost:** N/A (Staff time)

**Long Term Budget Requirements:** N/A (Staff time)

**Public Outreach and Input:**

Past public outreach & engagement approach/actions:

- HSEMA Training and Exercise Bureau has hosted interagency planning meetings with District partners to develop the discussion-based tabletop exercise focused on immediate, or "just-in-time" flooding as well as relief operations, or the following few days, after a flooding incident.

Current/future public outreach & engagement approach/actions:

- N/A

What were the Public Comments of relevance to this Action?

- N/A
Action Plan
Category 9 – Flood Emergency Planning, Response, and Recovery
Action 9.3 - Install Flashing Warning signs and Flood Sensors

Overview and Implementation Strategy:

DC is susceptible to coastal, riverine and interior flooding which can cause immense impact to infrastructure, safety and livelihoods of residents. The goal of this action is to improve flood warning systems for residents and District response agencies.

Through the analysis of climate change’s impact to the District and the changing land use and development, flooding impacts are expected to change and become more severe. To maximize the opportunity for flood analysis for these changes and mitigation strategies as well as minimize the threat and disruption to residents and essential services, weatherproof LED-enhanced warning alerts and remote flood sensors would be installed at flood prone areas in the District.

The weatherproof LED-enhancing weather alert would indicate to commuters that a street is under high-water conditions. Such a warning system could determine high water levels through ultrasonic or radar sensors. Another option is through a system called a contact closure. This type of high-water warning system operates through sensors positioned at the target water level. When these sensors get wet, stainless-steel electrodes meet, essentially functioning as a switch that sends power to LED warning lights, triggering them to begin flashing. The lights continue to flash until the water recedes, turning off the switch. These sensors can also send power to a transmitter, which can communicate with a city’s supervisory control and data acquisition system.

The installation of remote flood sensors in those same identified areas would continuously report water levels. When water levels rise, the flood sensor would automatically send warnings in real time, via ALERTDC, to residents and District response agencies that flooding has occurred in a particular area. The District can also decide on a depth of water, above which motorists should not attempt to drive through and traffic should be re-routed. The flood sensors would also collect water levels for data analysis and future flood mitigation strategies and projects.

HSEMA, in coordination with DDOT and DOEE, have identified locations that are prevalent to flooding events. Through various outreach with District partners, such as WMATA and Silver Jackets, HSEMA has received feedback about additional locations. HSEMA continues to coordinate with District agencies at inter-agency meetings and conferences to promote the value and need for flood sensors and signs to safeguard essential services and livelihoods.

Impacted City Ward/ANC:

• Wards: 2, 3, 4, 6, 7, 8
• See Master Sheet for all identified locations, as it stands. The Master Sheet is subject to change based on inter-agency feedback to prioritize and add locations.

Lead Agency:

• DDOT
  o DDOT will be installing and maintaining the flood signs and sensors.
  o DDOT has identified flood prone locations for both weatherproof LED-enhancing weather alerts and remote flood sensors.
Action Plan
Category 9 – Flood Emergency Planning, Response, and Recovery
Action 9.3 - Install Flashing Warning signs and Flood Sensors

Supporting Agencies, Roles/Commitments:
- HSEMA
  - The weatherproof LED-enhanced warning alert signs and flood sensors will be paid for through federal HMGP funding. HSEMA will be developing the grant application and submitting it for federal funding.
  - Participate in outreach opportunities to showcase the Action Plan with District partners and collaborate to prioritize and identify additional locations including recommending locations identified through emergency response.
  - The Flood Sensors will connect with AlertDC to provide real-time notifications to residents and response agencies when flooding in an area has occurred.
- DOEE
  - DOEE is providing regulatory consult and permitting assistance, if needed, for DDOT
  - DOEE has identified flood-prone locations for weatherproof LED-enhancing weather alerts and flood sensors
  - Data collected from the flood sensors can assist in the development of the Integrated Flood Model via agency coordination and buy-in
- WMATA
  - WMATA has identified flood prone locations weatherproof LED-enhancing weather alerts
  - WMATA has identified flood prone locations for remote flood sensors
- USGS
  - USGS has identified flood prone locations for remote flood sensors to be installed
- DC Water
  - DC Water has identified flood prone locations for remote flood sensors to be installed
- Office of Planning
  - Neighborhood Planning and Design Division will assist in the sign design process
  - State Historic Preservation Office will consult on the development of the scope of work

Background:

Impact of this Effort on Task Force Goal:
- These flood warning systems are triggered by rising water levels and immediately activate weatherproof LED-enhanced warning alerts to indicate a roadway is under high-water conditions. Therefore, commuters will know to avoid driving through the flood waters. The impact of this effort will prevent fatalities, injuries and destruction of property such as vehicles.
- Many roadways, bridges and surrounding areas in the District are subject to flooding as well. Installing flood sensors in these locations, residents and District response agencies will be able to receive real-time alerts regarding flooding. This will provide a warning for residents to avoid an area, as well as provide situational awareness to District agencies for response procedures.
- The flood sensors will also measure and collect water levels to provide data to District agencies that would assist with flood mapping, analysis, and strategizing mitigation projects.
Historical Context:

- Most flood fatalities are caused by people attempting to drive through water, or people playing in high water. The depth of water is not always obvious. The roadbed may be washed out under the water, and you could be stranded or trapped. Rapidly rising water may stall the engine, engulf the vehicle and its occupants, and sweep them away. High water levels can occur at highway dips, bridges, and low areas.

- DDOT presented the idea of these flood warning systems to HSEMA with a list of identified locations. However, at the time, there were no funding opportunities to purchase and install the equipment. In 2021, President Biden announced HMGP COVID, offering the funding opportunity to the District to back DDOT’s initiative.

- DDOT has identified the vendors for the signs and sensors, as well as locations under their jurisdiction.

- HSEMA has presented the action at the DC Silver Jackets meeting in April. This showcase has encouraged feedback from District partners, including identification of additional locations and prioritizing locations over others. District partners include WMATA and the National Planning Commission.

- HSEMA will continue to showcase the ongoing project to partner agencies, to increase awareness and inter-agency coordination that would increase the number of locations for the signs and sensors that could be installed.

- Options to alleviate flooding impacts would be to clear storm drains of debris so water can drain without obstacles. Another option includes expanding storm water management to increase the capacity of water that drainages can handle during a heavy rain event.

- Additional options to alleviate flooding can be derived from the analysis of flood data that the flood sensors would be able to collect that should be included in the Integrated Flood Model that DOEE is developing.

Equity:

How does this action assist vulnerable communities?

- This action will provide critical flood warning systems to District residents, including those in the most socially and flood vulnerable communities. The signs provide real-time awareness for the threat of flooding, where some segments of the population may not have access to other forms of alerts.

- A number of the identified locations for the sensors will be installed in vulnerable areas in the community, where flooding has serious impact. This will provide real-time alerts to residents via ALERTDC to avoid an area.

- The sensors will also collect flood data that officials can use for flood mapping and analysis, which will strategize projects aimed at mitigation flooding in those areas, so communities are no longer stricken with the disruptive and disastrous impact of flooding.
## Timeline:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2020</strong></td>
<td>DDOT</td>
<td>DDOT had identified the installation of flood warning signs at flood prone intersections as a project</td>
</tr>
<tr>
<td><strong>2021</strong></td>
<td>DOEE</td>
<td>DOEE had identified the installation of flood sensors at flood prone areas in the District to collect data for flood mapping and alert notifications as a project</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DOEE, HSEMA and DDOT coordinated to identify locations and funding opportunities for both projects</td>
</tr>
<tr>
<td><strong>2022</strong></td>
<td>HSEMA</td>
<td>HSEMA will submit an application for HMGP funding to fund the installation of flood signs and sensors at multiple locations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HSEMA to establish working group to continue showcasing the project to District partners and the public to further identify additional locations and funding opportunities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Upon the identification of vendors, HSEMA will work with the vendors and HSEMA Operations to connect the flood sensors with ALERTDC as well as DOEE and DC Water for their flood mapping.</td>
</tr>
<tr>
<td></td>
<td>HSEMA &amp; Office of Planning</td>
<td>HSEMA and OP Neighborhood and Design Division will coordinate</td>
</tr>
<tr>
<td></td>
<td>DDOT</td>
<td>DDOT will utilize their contractor to perform market research of vendors. Upon the identification of the vendors, DDOT’s contractor will purchase and install the flood signs and sensors</td>
</tr>
<tr>
<td><strong>2023</strong></td>
<td>Interagency Agency Working Group</td>
<td>The established Working group will continue to showcase the project for increase awareness and coordination with District agencies to assist in location identification, prioritization and funding opportunities</td>
</tr>
<tr>
<td></td>
<td>DDOT</td>
<td>DDOT’s contractor will install the flood sensors and signs at the identified locations</td>
</tr>
<tr>
<td></td>
<td>HSEMA</td>
<td>HSEMA Operations to implement sensors and signs warning systems into ALERTDC. Considerations to be made for notifying residents without cellphones</td>
</tr>
</tbody>
</table>
Action Plan
Category 9 – Flood Emergency Planning, Response, and Recovery
Action 9.3 - Install Flashing Warning signs and Flood Sensors

Budget:

Total Estimated Cost: The total estimated cost of this action depends on how many signs and sensors are purchased.

Cost Breakdown by Phase / Action:
- $26,950.00 per LED Warning Signs
- $13,349.65 per LED Warning Signs installation
- $3,907.75 per Flood sensors
- $13,349.65 per Flood sensors installation

Long Term Budget Requirements: The initial effort of this Action Plan will focus on using HMGP funds – only available for 2023. Initial funds from HMGP may not be enough for all the signs and sensors that will be necessary for calibrating the Integrated Flood Model, or for all the flood prone areas identified by this research.

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Responsible Agency</th>
<th>Funding Source</th>
<th>Amount to be Requested</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2023</td>
<td>HSEMA</td>
<td>HMGP</td>
<td>Federal: $560,461.41</td>
<td>This will fund the installation of multiple signs at identified locations.</td>
</tr>
<tr>
<td>2023</td>
<td>HSEMA</td>
<td>HMA</td>
<td>Federal: $60,000</td>
<td>This will fund the procurement of sensor equipment</td>
</tr>
<tr>
<td>2024 and beyond</td>
<td>HSEMA</td>
<td>Local/ Federal Grants</td>
<td>$100,000-200,000</td>
<td>This will fund the continued installation of signs and sensors until all areas identified in the research have been serviced.</td>
</tr>
</tbody>
</table>

Public Outreach and Input:

Past public outreach & engagement approach/actions:
- N/A

Current/future public outreach & engagement approach/actions:
- Public outreach for each location will be conducted by DDOT as part of the project process as sites are identified and plans for installation finalized.
Action Plan
Category 9 – Flood Emergency Planning, Response, and Recovery
Action 9.3 - Install Flashing Warning signs and Flood Sensors

What were the Public Comments of relevance to this Action?

Public Comments on this Action Plan from Sept/Oct 2022

- Recent flooding at the Metro underpass at Rhode Island Avenue NE, and at the I-295 underpass at Nannie Helen Burroughs Ave NE have underscored the importance of installing warning signs to prevent motorists from attempting to drive through flood waters in these areas. Residents and businesses have contacted Task Force agencies asking for action at these locations.

- From the D.C. Commission on Climate Change & Resiliency: The Commission supports this Action Plan and further encourages the Task Force to consider additional educational signs alerting residents of flood zones and high-risk flood areas.