



DECEMBER 2021 ISSUE 4

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Manager's Message

A message from the Flood Action Program Manager.

Together, We Can Build Resilience to Extreme Rain Distressing Our City



I was six years old the first time I saw a major flood.

It happened in the working-class neighborhood in my hometown of Bogota, Colombia, where my family lived. Intense rains had caused a river nearby to overflow its banks and flood large swaths of the neighborhood.

Looking out a window on the second floor of the rental apartment where we lived, I saw the dirty floodwater barely a block away from our doorstep. A city bus was stranded on one of the flooded streets, with a few passengers onboard, thrashing in the water and unable to open the doors.

At that moment, a military truck arrived on the scene, and the commanding officer ordered the soldiers to get off. Their fatigues were wet and their faces weary because, indeed, they had been deployed to help

with flood fighting. The officer barked a few commands and led his men toward the bus.

I don't know how, but the next thing I saw was the soldiers pulling and pushing the bus out of the water onto dry land. The freed passengers came out and thanked the soldiers profusely, but the officer ordered them back to the truck.

They left as quickly as they had arrived, probably toward the next emergency.

That episode left me with an eyewitness experience of how floods affect a community and the role that community members can all play in taking measures to help others in need.

Fast forward several decades, I have the honor to serve as the City of Alexandria's FloodAction Program Manager, overseeing the City's flood mitigation capital projects. I have been fortunate to work on landmark projects in the United States and abroad in my career. However, this is the first time I have had the opportunity to work for the community I live in, and it brings me an added level of professional and personal satisfaction.

This sense of pride is also evident in the hard work that the staff implementing the FloodAction program is doing daily to deliver solutions to reduce flood damage. Over the next ten years, we will invest \$281 million to overhaul drainage infrastructure, thus improving the quality of life for everyone in Alexandria.

The rain and the tides will keep coming, and climate change will only worsen the situation. However, together the City staff and residents can reduce the negative impact of floods and increase the resilience of the City. I invite you to read this newsletter and visit our website to learn what we do and share ideas on how you can be part of the solution.

Editor's note: The Manager's Message is a periodic editorial authored by senior leaders of the Flood Action Alexandria program.

News

News to know about the City's flood mitigation efforts.

Alexandria Crews Clean Up After Third-highest Tidal Flooding Event



City Operations crews survey flooding in Old Town after storm on Oct. 30. (City of Alexandria)

City crews worked around the clock to clean up after an October tidal surge that caused the City's third-highest tidal flooding event on record.

According to the National Weather Service, the tidal surge peaked at 5.99 feet on Oct. 29, following only two other events in the past 85 years when the tide peaked higher than 6 feet. The tidal surge, brought on by wind and a low-pressure system, contributed to the Potomac River flooding.

"I'm proud of the joint effort of all the staff who worked tirelessly for the community," said Mark Gundersen, Division Chief of Public Works Services. "Staff worked efficiently and quickly as a team to return the community to a lively economic center in a short amount of time."

The National Weather Service issued a Coastal Flood Warning ahead of predicted heavy rainfall on Oct. 28. The City distributed sandbags to residents and businesses to protect property from potential flooding.

Multiple City agencies worked together in a coordinated effort during the preparation and recovery phases of the storm response.

City Operations crews inspected and cleaned sanitary and storm inlets and pipes across the City. Teams from the Parks and Recreation Department assessed parks along the waterfront, while crews from General Services examined properties owned and leased by the City.

As the storm moved into the area, Operations teams worked to ensure inlets and pipes were free of debris and functioning properly and responded to requests that came through [Alex311](#), which allows residents to request City service through the app or online. After the storm, the teams shifted to clean up debris from hard-hit streets and sidewalks in Old Town.

The flooding event was the third-highest on record, following Sept. 19, 2003 after Hurricane Isabel struck and the tide reached 8.66 feet and March 19, 1936, when the tide registered 7.5 feet, according to the National Weather Service.

Resilient Stormwater Concept Projects Earn Funding from State

A study and design for two concept projects exploring green infrastructure received funding from a state grant supporting communities that implement stormwater management practices.

The state Department of Conservation and Recreation awarded a [Community Flood Preparedness Fund](#) (CFPF) grant worth \$115,200 to the City on Oct. 5. Alexandria, one of just 19 communities to receive the grant, plans to use it for a study and design for two green infrastructure concept projects in the Four Mile Run watershed.

This was the first round of the new Community Flood Preparedness Fund grant program which is anticipated to award projects on a quarterly basis. It's funded by the [Regional Greenhouse Gas Initiative](#), a partnership among 11 Eastern states that regulate emissions through an allowance program that collects funds from power plants.

Since its inception, the initiative has reduced power plant emissions by 50% and raised more than \$4 billion to invest in communities in the 11-state region, according to its website.

The City will use the grant to fund a study and recommend two projects to implement green infrastructure.



Four Mile Run incorporates permeable pavement, a form of green infrastructure, in a parking lot to reduce runoff from heavy rain. Permeable pavement can also help filter out pollutants that contribute to water pollution. (City of Alexandria)

Green infrastructure for stormwater management includes devices such as permeable pavement and tree box filters. Green infrastructure efforts are part of the City's broader [Resilience Plan](#), which focuses on incorporating nature-based infrastructure across all neighborhoods of the City.

The green infrastructure projects would complement [two large storm sewer projects](#) planned for the Four Mile Run watershed. Although green infrastructure will not eliminate flooding issues in the area, it will provide a complementary option to manage stormwater. It will also help improve water quality by filtering out pollutants.

The City has applied for the second round of funding through the CFPF, which would be used to complement a storage and conveyance project planned for Edison Street and Dale Streets in Arlandria.

City Working Through Applications for Flood Mitigation Pilot Grant Program

City staff is diligently working through a backlog of more than 150 applications for its [Flood Mitigation Pilot Grant Program](#).

The program, launched on Aug. 30, provides reimbursement up to \$5,000 to homeowners who take measures to mitigate flooding in their homes. The City Council appropriated \$750,000 starting in FY 2022 to initiate the program, with funding identified annually in the 10-Year budget.

The program was launched to help property owners that were affected by significant flooding events going back to July 2019. Homeowners who experienced damage during those storms and then installed flood mitigation measures are prioritized when applying under the 'pilot' phase of the program.

Flood mitigation measures that qualify include basement window protection, permanent flood gates and drain tiles under basement floors. A list of approved flood mitigation efforts and City permitting requirements is [online](#).

Before beginning the project, check if a permit is required through Code Administration or Historic Preservation. Applications must be submitted through the City's Permits and Land Use website at alexandriava.gov/Permits.

To apply, property owners must include photos and claims of the damage, photos of the completed work and proof of payment for the work. More information is available [here](#).

Questions can be sent to floodgrant@alexandriava.gov.

Snapshot

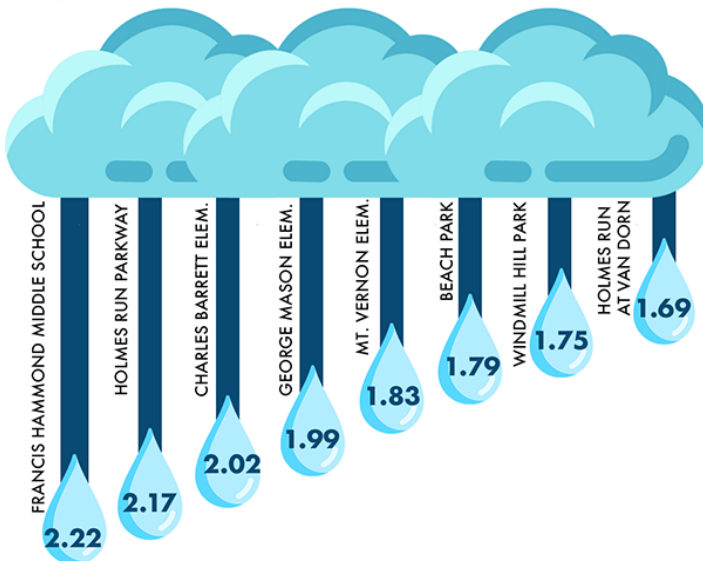
A visual look at stormwater management information.

The City operates eight rain gauges and six stream gauges to measure rainfall and runoff. The gauges are positioned within watersheds as early warning systems for dangerous conditions, such as flash floods. [Check the rain gauges in the watershed closest to your neighborhood.](#)

Here's a look at rainfall levels from the City's rain gauges after heavy rainfall on Oct. 25.

RAINFALL LEVELS

City of Alexandria, Oct. 25, 2021



ARTIST: UMEICON, FREEPIK

Updates: Storm Sewer Capacity and Spot Improvement Projects

Three large capacity projects to mitigate flooding are expected to enter the design phase in Fiscal Year 2022.

Capacity projects at Commonwealth Avenue and East Glebe Road, Ashby Street and East Glebe Road and Hooff's Run Culvert / Timber Branch Bypass are part of the City's Capital Improvement Projects Plan for FY 2022 – FY 2031. The City estimates storm sewer capacity projects to cost about \$170 million.

Track updates to capacity projects [here](#).

STORM SEWER CAPACITY PROJECTS

PRIORITY	PROJECT	CURRENT PROPOSED SOLUTION	CONSTRUCTION ESTIMATE FUNDED	ESTIMATED COST
1	Commonwealth and Glebe	Conveyance	FY 2023	\$34 million
2	Ashby and Glebe	Storage/Conveyance	FY 2024	\$16 million
3	Hooff's Run Culvert Bypass	Conveyance	FY 2025	\$60 million
4	Edison and Dale	Storage/Conveyance	FY 2026	\$13 million
5	Dewitt Avenue	Storage/Conveyance	FY 2027	\$15 million
6	East Mason Avenue	Storage	FY 2027	\$1 million
7	Notabene and Old Dominion	Storage/Conveyance	FY 2028	\$4 million
8	Mount Vernon, East Glendale, East Luray and East Alexnadria	Conveyance	FY 2028	\$10 million
9	East Monroe and Wayne	Conveyance	FY 2029	\$3 million
10	Russell Road and West Rosemont	Conveyance	FY 2029	\$6 million
11	Russell Road and West Rosemont (South)	Storage	FY 2030	\$8 million

TOTAL \$170 million

The City is also continuing its work on smaller, neighborhood projects aimed to increase the functionality of the storm sewer system.

Staff members have visited several neighborhoods to investigate areas for future spot improvement projects. Among the proposed projects, the City has identified Mount Vernon Avenue Cul-de-Sac and Hume Avenue Bypass, Hume Avenue inlets and check valve, East Mason Avenue inlets, East Mason/East Alexandria flap gates and check vales and South Jordan Street.

Projects can take up to 20 months to complete.

Track updates to neighborhood spot improvement projects [here](#).

From the Ad Hoc Group

Action from the Ad Hoc Stormwater Utility and Flood Mitigation Advisory Group.

Advisory Group Sends Budget Priorities to City Council

In a letter to City Council, members of the [Ad Hoc Stormwater Utility and Flood Mitigation Advisory Group](#) supported a 5% increase on the Stormwater Utility fee and FY 2023 funding to support numerous flood mitigation projects.

The advisory group serves in an advisory role to help City staff and elected officials shape the measures and projects to prepare Alexandria for future flood threats.

The fee increase and level of funding for FY 2023 are outlined in the Stormwater Management Utility Ten-Year Plan for FY 2022 – FY 2031, which was adopted by City Council on May 5. In the letter, the advisory group wrote in support of the following:

- Continue to prioritize stormwater capacity and flood mitigation projects;
- Ensure the sponsoring and managing departments are fully staffed and funded to manage, implement, and accelerate where possible a growing number of projects;
- Evaluate and revise the stormwater program to reflect changing events and conditions;
- Continue ongoing maintenance and spot project improvements of the stormwater system;
- Evaluate ongoing maintenance requirements to ensure sufficient future funding and resources are allocated to meet the demand of ongoing operations and maintenance;
- Evaluate the level of funding for the Flood Mitigation Grant pilot program and possibly expand coverage to better assist condominiums and ensure continued solvency;
- Evaluate, and apply for relevant state and federal grant funding for flood mitigation and resiliency projects, and;

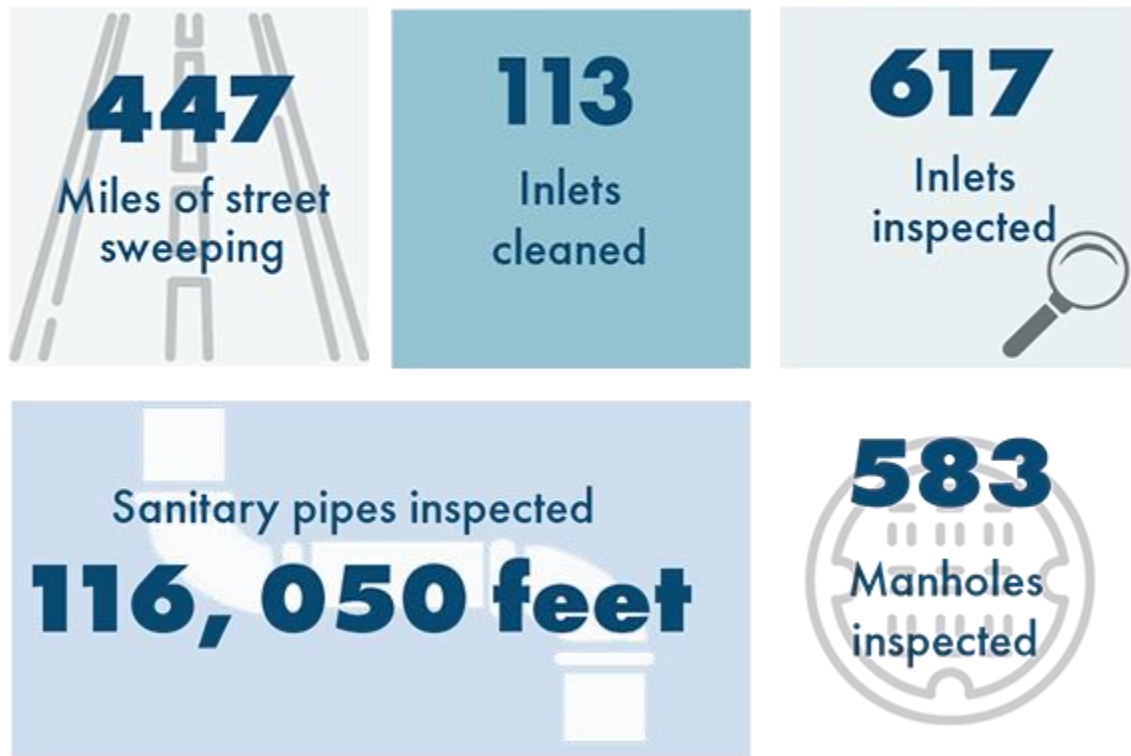
- Evaluate and recommend appropriate annual increases in stormwater utility rates.

The [next meeting of the Ad Hoc Stormwater Utility and Flood Mitigation Advisory Group](#) is 7 p.m. on Wednesday, Dec. 8.

Community Maintenance Work

Stormwater and Sanitary sewer work performed by City crews in September and October.

COMMUNITY MAINTENANCE WORK



Stormwater Steward

Gratitude for those who go above and beyond the call of duty.



Raymond Monk inspected inlets in Old Town ahead of anticipated wet weather on Oct. 25. (City of Alexandria)

In the days before an anticipated big storm, laborer Raymond Monk is methodically moving through the City to inspect inlets for debris that causes clogs and backups.

It's not uncommon to hear him sing his favorite gospel music while he's working. He's focused, only pausing to wave as residents driving by share their gratitude by honking.

"That just makes me want to do my job even better," he said.

Watch Monk in action [here](#).

Stay Connected

Follow the City's Department of Transportation and Environmental Services on [Facebook](#), [Twitter](#) and [Instagram](#).

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