

MANAGER'S MESSAGE

ADVISORY GROUP

ENEWS

With the most recent storm event on January 9. 2024, it served as a reminder that the potential for flooding and sewer backups can

It also reminded me of the first time I learned about the very real impacts of infiltration and inflow (I&I) into sanitary sewer systems.

It was February 2003 and a blizzard hit the Washington D.C. metro area. This was followed

by a rapid warm-up, then a storm which brought more than two inches of rainfall. This event resulted in basement backups in the City's Four Mile Run and Commonwealth

occur at any time of the year.

sanitary sewersheds.

ABOUT US

projects, and encourage anyone to reach out if you have any questions or concerns.

the City issued its first construction contract aimed at sealing its leaky sewers and manholes to prevent I&I from getting into the sanitary sewer system. The result: I&I flows were reduced by about 33 percent and reports of sewer backups were significantly reduced. Despite the work that has been completed, there is still a lot to do. Some sewers that were in good condition in 2003 have developed defects over the past 20 years and now require repair. A new construction contract has been issued and, since November 2023, the City's contractor has been actively working to fix these sewers and manholes with the goal of further reducing I&I in the sanitary sewer system. Other projects to reduce the potential for sanitary sewer backups are also being implemented, including installing manhole inserts to reduce stormwater runoff into manholes, pipe upsizing and capacity projects, and separating sanitary sewers from overwhelmed combined sewers. I appreciate the community's patience and support as we work towards completing these

Coincidentally at that time, I was working at an engineering firm tasked with identifying sources of I&I in these areas, both from the City's sewer infrastructure and private sources of inflow into sanitary sewers, including roof leaders, driveway drains, and outside stairwell drains. In 2004.

Erin Bevis-Carver, Sanitary Infrastructure Division Chief Editor's note: The Manager's Message is a periodic editorial authored by senior leaders of the City of Alexandria. PROJECT UPDATES

LARGE CAPACITY PROJECTS Upcoming Milestone on the Commonwealth, Ashby, and Glebe Flood

Mitigation Project

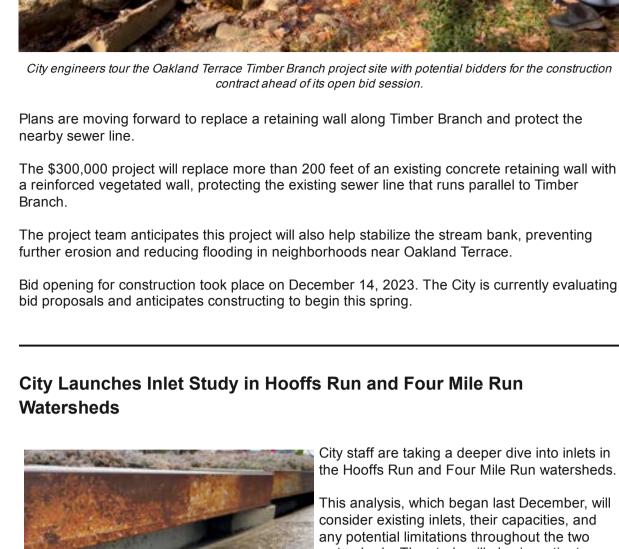


Conflicts with utilities and major cost drivers were also identified. This flood mitigation project is a combination of the top two prioritized large capacity projects and is being designed to provide flood relief for the neighborhood near the intersections of Commonwealth Avenue and E. Glebe Road, and E. Glebe Road and Ashby Street. The City will install new parallel relief sewers to increase stormwater conveyance capacity. Designs also include a new outfall to discharge flows to Four Mile Run. The total project is estimated at \$50 million. The 60 percent designs are expected to be complete this spring.

City Reviews Alternatives for Hooffs Run Culvert Bypass Project

Hooffs Run was mostly channelized by the 1930s to improve sanitation. The large pipes that contain streams are called culverts. Project teams are making progress on the <u>Hooffs Run Culvert Bypass Project</u> as they continue to analyze alternative designs and solutions. This analysis will help staff determine the best flood relief in the area in the most cost-effective way. Staff are reviewing feedback received from the public regarding this project from the recent questionnaire, which closed on December 8, 2023. More than 120 residents responded, answering questions about their experience with flooding and assisting in the development of a flood map of the project area. City staff stated that these responses confirm how important this project is to many residents and business owners in the area. The bypass project will provide flood relief for neighbors, homeowners, and businesses along the Hooffs Run and Timber Branch culverts without negatively impacting conditions in other locations in the city. Project teams will be narrowing down the project alternatives to a shortlist of combinations. These will be assessed on several different aspects, including cost, project schedule. construction impacts, and complexity. City staff continue to work towards a solution to this complex drainage system. See More Large Capacity Projects →

Permeable surfaces enable stormwater to infiltrate through to soil below and reduce surface runoff. Contractors started work on the Lloyds Lane Stormwater Spot Improvement Project on January 29, 2024. The City's on-call contractor will be working to install permeable sidewalk and an underdrain near the 300 block of Lloyds Lane. This will better drain ponding stormwater from the sidewalk at the low point, helping relieve potentially hazardous conditions for homeowners in the area,



FLOODACTION Explore the City's flood mitigation efforts and find real-time updates Visit the interactive project map

Project leaders say the study will help guide future improvements to mitigate local flooding

See More Spot Improvement Projects →

during major storm events.

Mature trees are among the various practices that can be included on SWU Credit applications. The application window opens annually on December 1 and closes on February 15. For this cycle, program staff have received approximately 18 new applications. The SWU Fee was established in 2018 to provide funding for the City's stormwater management program and capital infrastructure projects. This includes operating and capital programs, such as large capacity and small improvement projects that are part of the Flood

In 2022 City Council approved changes to the program, adding several flood mitigation practices eligible to receive credits. Other changes included streamlining the application process, increasing the overall amount of credit a property can receive, and making credits

Stormwater Utility Manager Camille Liebnitzky says there is a large menu of practices that may

"You can do different things around your property to improve stormwater management in the city," Liebnitzky said. "Mature trees, rain gardens, flood gates, and conservation landscaping

Approved applications will receive a reduction, or credit, on their 2024-2025 calendar year

Action Alexandria Program, whose goal is to reduce flooding throughout the city.

The credit program incentivizes residents to install water quality and floodproofing practices through reductions to their SWU fees. Property owners can receive credits by submitting an application along with photos of eligible

good for two years before you have to reapply.

are among the most common practices we see on applications."

be used for a SWU Fee reduction.

practices.

flooding.

property owners.

common area.



In total, 64 applications were submitted in 2023, with more than 40 percent coming in after the October 2023 changes. Many of these, Montoney says, have not previously experienced

"The Flood Mitigation Grant Program is here to help property owners protect their homes and families while the City works to mitigate flooding through large capacity capital projects," Montoney said. "It's nice to see the success of the project helping so many people."

Launched in 2021 as a pilot, the program was meant to encourage property owners to install flood mitigation measures on their properties. As a partnership between the City and property owners, the program offers reimbursement grants of 50 percent of the completed project costs, when eligible floodproofing measures are installed, up to a maximum \$5,000 for most

Condominium and homeowner associations are now eligible to receive a 50 percent grant, up to a maximum \$25,000 on floodproofing practices to protect common areas, like clubhouses,

Since this change, Montoney says the City has received one application for an association

The City awarded more then \$151,000 in grant funding in 2023. This brings the program to a

Grant program staff strongly encourage property owners to consult with City engineers prior to

Applications can be submitted online via APEX, the Alexandria Permitting and Land Use System. The Flood Action Alexandria website has a full list of eligible practices and a manual.

parking garages, pool areas, common doorways, or building shells.

starting work to ensure it complies with eligibility requirements.

total of more than \$865,000 since its inception.

Water levels rise along Hooffs Run south of Duke

Street following storms in August 2023.

to \$525,000.

16, 2023

Alexandria for the first time since 2011.

The Four Mile Run Floodplain doubled following

updates to the FEMA Flood Insurance Rate Maps.

federal minimum requirements.

Stream Flow dashboard.

and families."

forward in communicating with residents.

are accepted on an ongoing basis. City to Develop Flood Resilience Plan to Help Guide Future Flood **Mitigation Efforts** A new tool is in the works to better understand and prepare for future flood events. City staff, in consultation with the Ad Hoc Stormwater Utility and Flood Mitigation Advisory Group and residents, are working to develop its first Flood Resilience Plan. The plan will serve as a road map for the Flood Action Alexandria program to address current and future flooding. Last October, City Council approved submitting an application for the Community Flood Preparedness Fund (CFPF) Grant Program through the Virginia Department of Conservation and Recreation (DCR). If

The Plan will address hazard identification, flood mitigation, flood preparedness and response, policies and regulations, funding strategies, and communication and information dissemination.

Through this process, the City will also begin a new engagement effort to communicate with residents and learn more about their first-hand experience with flooding. The Plan will include efforts to reach communities who may have language or social barriers, or a lack of technology access. Staff say engaging with the community will help identify where future mitigation efforts

The City expects notification from the state soon. If approved, the grant will provide funding up

Revised Floodplain Ordinance Adopted by City Council on December

The Federal Emergency Management Agency (FEMA) updated its Flood Insurance Maps in

As required by federal statute, City Council adopted a new Floodplain Ordinance in December to reflect the updated maps. Adopting an updated Floodplain Ordinance reflecting the new map effective date is required for continued participation in the National Flood Insurance

The City participates in the NFIP Community Rating System (CRS), a voluntary federal incentive program that recognizes communities' flood management practices that exceed

requirements.

Program (NFIP). The City has participated in the NFIP since 1971.

Energy and Climate Change Action Plan. To date, the City has received more than \$5 million in grant funding through CFPF.

According to Virginia DCR, Flood Resilience is

"the capability to anticipate, prepare, respond to and recover from flood hazards to minimize damage to social well-being, health, the

The FEMA Flood Insurance Rate Maps provide information about an area's flood risk. This information can be used to better understand how to protect yourself and your property, and the management practices that may help reduce that risk. The maps are also used to help mortgage lenders determine insurance

The NFIP requires the City to administer development in FEMA's floodplains and uses

of future development to reduce building

exposure to flood hazards.

them for applying regulations and restrictions

economy, and the environment."

As part of its recent rate map update, FEMA restudied the Four Mile Run floodplain. The new data resulted in doubling the size of that floodplain. Other areas throughout the city may see a slight change to floodplain boundaries. The rate maps are administered nationwide and are updated as FEMA acquires funding. The 2023 update, titled the Flood Risk Study for Middle-Potomac, Anacostia, Occoquan Watersheds, began in 2014. The study was managed by FEMA Region 3. City staff are working to develop a local public-facing online map to provide residents easy access to floodplain information. City to Expand Rain Gauge Portal to Include Sanitary Gauge The Fire District

The City has installed a meter gauge in the sanitary sewer system near South Pitt Street and Gibbon Street, and is working to add its data to the One Rain Alexandria Rain Gauge and

Launched in 2021, the online portal provides near real-time data collected at rain gauges located in correlation to the area's eight major watersheds. At the time of its launch, the City had two installed gauges to measure rainfall. In May 2021, six additional gauges were added

The portal gives residents access to these measurements. It also provides early warning

Stormwater Management Senior Engineer Brian Rahal says this resource was a big step

"It encourages and increases general knowledge and how the environment is affecting residents," Rahal said. "It allows residents to get better data quicker to help protect property

The City is taking another step forward adding the sanitary gauge to the dashboard,

updated every thirty minutes and is expected to launch in the next few weeks.

measuring sanitary flow near South Pitt Street and Gibbon Street. This gauge will provide data

STORMWATER AND SEWER

MAINTENANCE

2023 YEAR IN REVIEW

COMMUNITY MAINTENANCE WORK

SANITARY SEWER

MAINTENANCE

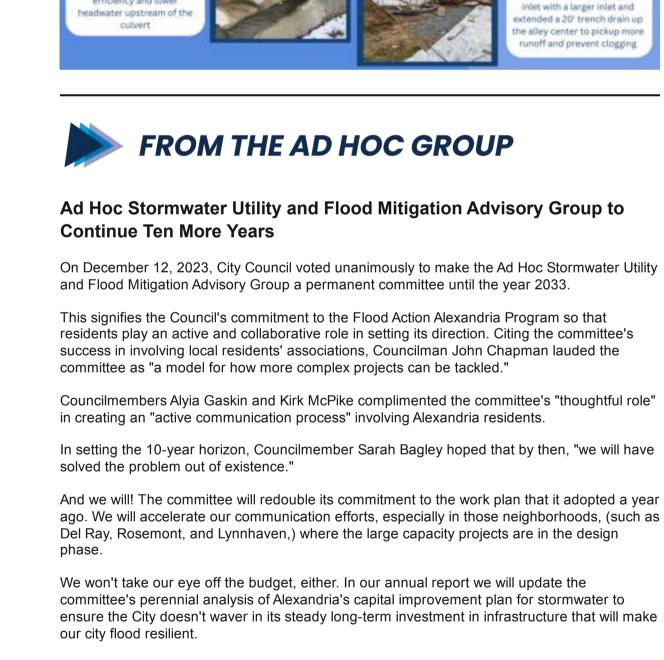
101,324 SANITARY SEWER MAINS

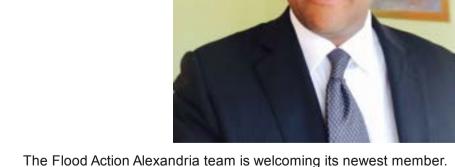
CLEANED

to expand the network, providing better coverage and hyperlocal information.

information during rain events to help residents prepare for potential flooding.

STORMWATER MAINTENANCE INSPECTION AND MAINTENANCE 408 HOT SPOT AREAS 813 CATCH BASINS 53 STRUCTURES REPAIRED BEST

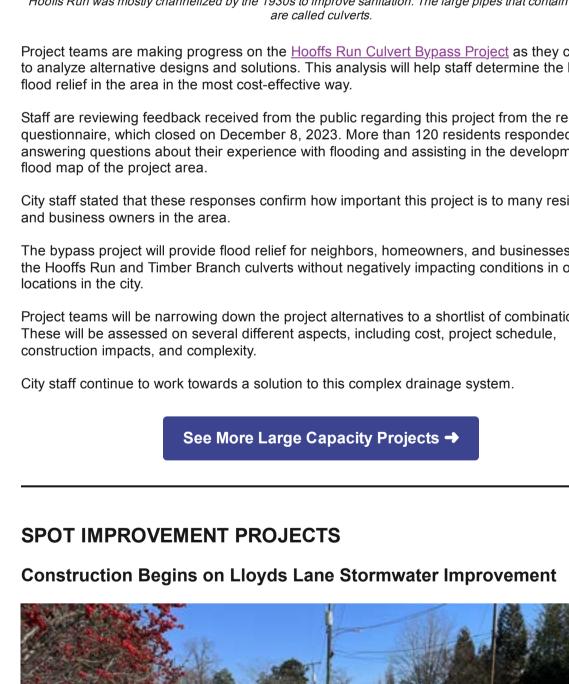




the City of Alexandria Department of Project Implementation.

generation of engineers.

schools to help kids learn math, science, and engineering. This work, he says, helps to show children what opportunities are out there, and hopefully provide encouragement to the next



Bulletin bases 1 and

which may include frozen patches. Funded by the Stormwater Utility Fee, the project will cost about \$150,000. Construction work is expected to take about one month. **Construction Contract Awarded for North Overlook Drainage Improvement Project**

Construction will be taking place near the intersection pictured above. City staff are working towards providing flood relief to residents near North Overlook Drive and Pullman Place. The contract was awarded at the end of 2023 to begin constructing additional inlets, storm sewer pipes, and underground detention at the intersection of North Overlook and South Overlook Drive. This project will increase the capacity and efficiency of the storm sewer system to mitigate flooding for area homeowners. City staff are developing the detailed project schedule. Construction of the \$300,000 project is expected to begin early 2024. Bid Proposals Under Evaluation for the Oakland Terrace Timber **Branch Spot Improvement Project**

watersheds. The study will also investigate where old inlets may be enlarged, or new inlets may be installed along the existing drainage system to improve efficiency. Inlets collect stormwater runoff from the ground surface

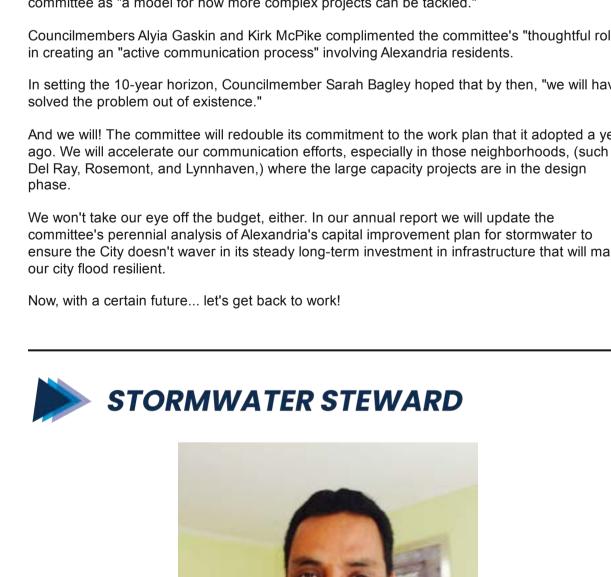
alexandriava.gov/FloodAction **NEWS** There is Still Time to Apply for a Reduction Credit on your Stormwater **Utility Fee** City of Alexandria property owners have until February 15, 2024 to apply for the Stormwater Utility (SWU) Fee Credit Program.



Questions about the program can be submitted to Floodgrant@alexandriava.gov. Applications approved, this funding will support the development of the Flood Resilience Plan, which was originally identified in the 2023

Last October, the City received re-certification of a Class 6 Rating from the CRS, which secures flood insurance discounts of up to 20 percent for property owners in FEMA's designated Special Flood Hazard Areas.





are a lot of new ambitions for the City of Alexandria that make it conducive to do that, and that inspires me." Prior to working for the City, Haptemariam spent more than 20 years as a consultant addressing community flood concerns and flood mitigation efforts. He has experience working with the National Flood Insurance Program, as well as working on floodplain development and analysis. His career also encompasses managing stormwater structural rehabilitation and restoration projects. Growing up in Alexandria, Haptemariam says his first-hand experience with flooding was the driver behind a career in stormwater management. "With the challenge of flooding problems in Alexandria comes the need for new technology and new improvements to help move forward. What we do is to make [the residents'] quality of life better," Haptemariam said. "As an engineer, I'm always thinking, how do we make things better. We want to make sure that forward thinking continues to flourish in Alexandria." Haptemariam, a father of three children, enjoys spending his free time volunteering with local

Last month, Alex Haptemariam began working as the Senior Stormwater Project Manager for

With a Bachelor of Science Degree in Civil Engineering, as well as a Master of Science Degree in Environmental Engineering, Haptemariam will be assisting City teams with large capacity stormwater infrastructure projects, flood mitigation, and water quality improvement efforts.

infrastructure with the new technology and the challenge that we are facing, including flooding and development, and how do we take care of our future, nature, and the public trust. There

"Problem solving is what pushed me into engineering," Haptemariam said. "The aging

The Flood Action Alexandria newsletter is produced by City staff. Email us at <u>stormwater@alexandriava.gov</u>.