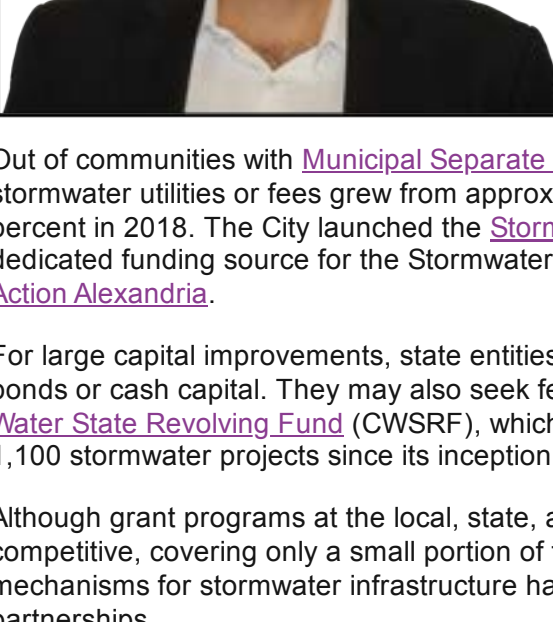


## MANAGER'S MESSAGE

### Funding for Stormwater Projects, Opportunities, and Challenges



Ramji Chhabade, Acting Director of the Department of Project Implementation.

Funding for stormwater infrastructure across the country is limited despite being sourced from multiple streams, including local revenue, state and/or federal grants, and non-traditional funding streams. Because the financial responsibility for managing stormwater systems can sometimes be unclear and draw from entities' general funds, public entities in at least 40 states have taken the initiative to create stormwater utilities to collect fees based on property size, impervious area, and/or other site-specific characteristics related to runoff production.

Out of communities with **Municipal Separate Storm Sewer Systems (MS4)**, those with stormwater utilities or fees grew from approximately 19 percent in 2013 to upwards of 26 percent in 2018. The City launched the **Stormwater Utility (SWU) Fee** in May 2018 as a dedicated funding source for the Stormwater Management Program, which includes **Flood Action Alexandria**.

For large capital improvements, state entities or municipalities may use general obligation bonds or cash capital. They may also seek federal resources like those from the **2023 Clean Water State Revolving Fund (CWSRF)**, which has provided nearly \$2.2 billion for more than 1,100 stormwater projects since its inception.

Although grant programs at the local, state, and federal levels are limited and highly competitive, covering only a small portion of the overall need, non-traditional funding mechanisms for stormwater infrastructure have emerged. These include public-private partnerships, utility user fees, and other innovative financing models.

The City of Alexandria is continuously seeking additional funding opportunities in support of our Flood Action Alexandria Program. The City also performs periodic reviews of the SWU Fee and proposed projects to comply with state and federal stormwater regulations. Stormwater utility fees, grant funding sources, and other funding sources constitute the budget that supports capital project delivery and Operations and Maintenance; therefore, project timelines are heavily influenced by budget, annual allocations, and ever-changing regulations, construction costs, and shifting needs.

The Flood Action Alexandria team has had a work balancing many competing priorities and coordinating with various stakeholders, while maintaining compliance, budget alignment, and a path forward that can have a positive impact for the City of Alexandria's communities and stormwater infrastructure.

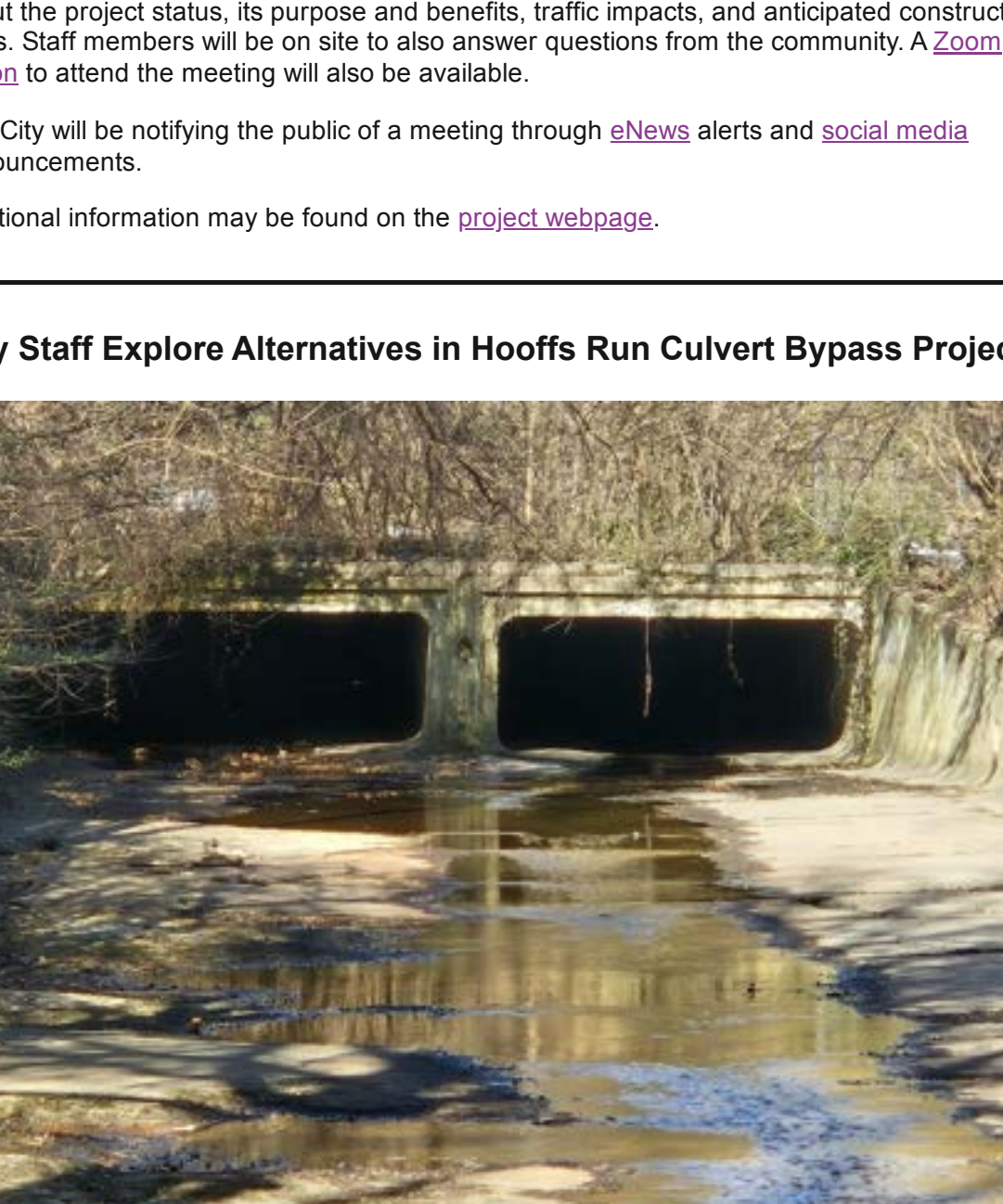
Ramji Chhabade, Acting Director of the Department of Project Implementation.

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

## PROJECT UPDATES

### LARGE CAPACITY PROJECTS

#### City Staff Prepare to Host Public Meeting on Commonwealth, Ashby, Glebe Flood Mitigation Project



The large capacity project to bring flood relief near Four Mile Run is nearing its final phase of design. The 90 percent design, originally expected late 2024, required additional adjustments to bring down the project construction cost estimate. City staff are working with the design contractor to complete this phase before Final Design, a phase in which the design is nearly complete and few modifications to the project are anticipated.

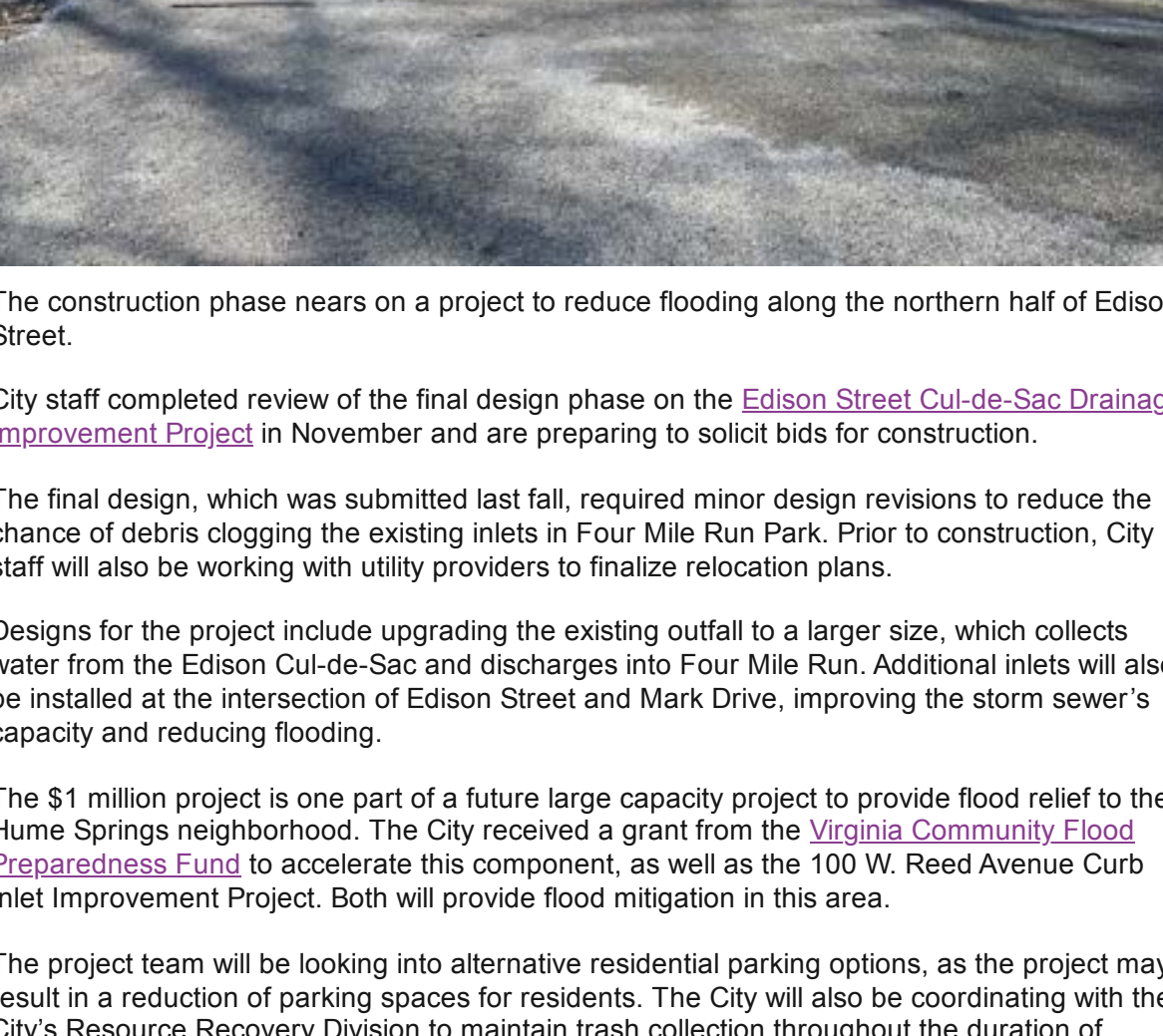
The **Commonwealth, Ashby, Glebe Flood Mitigation Project** is the combination of the top two priority large capacity projects to reduce flooding near the intersections of Commonwealth Avenue and E. Glebe Road and Ashby Street and E. Glebe Road. The project includes installing new parallel relief sewers to increase stormwater capacity and a new outfall to discharge flows to Four Mile Run, along with green infrastructure elements to enhance water quality.

Project staff will host a public meeting on Wednesday, February 19 at 7:00 p.m. at the Siter Cities Room 1101 at City Hall. The meeting will provide an opportunity for the public to learn about the project status, its purpose and benefits, traffic impacts, and anticipated construction costs. Staff members will be on site to answer questions from the community. [Click here](#) to attend the meeting will also be available.

The City will be notifying the public of a meeting through [enews](#) alerts and [social media](#) announcements.

Additional information may be found on the [project webpage](#).

#### City Staff Explore Alternatives in Hooffs Run Culvert Bypass Project



The **Hooffs Run Culvert Bypass Project** is a complex effort to provide flood relief to the areas near the Hooffs Run and Timber Branch culverts. City staff continue working towards finding the most effective solution to complete the "express lane" for stormwater entering the city.

The Hooffs Run culvert was built nearly a century ago to contain the Hooffs Run and the Timber Branch streams. With worsening storms caused by climate change, as well as aging building, the culvert no longer has the capacity to carry the amount of runoff brought in by more intense, more frequent rain events.

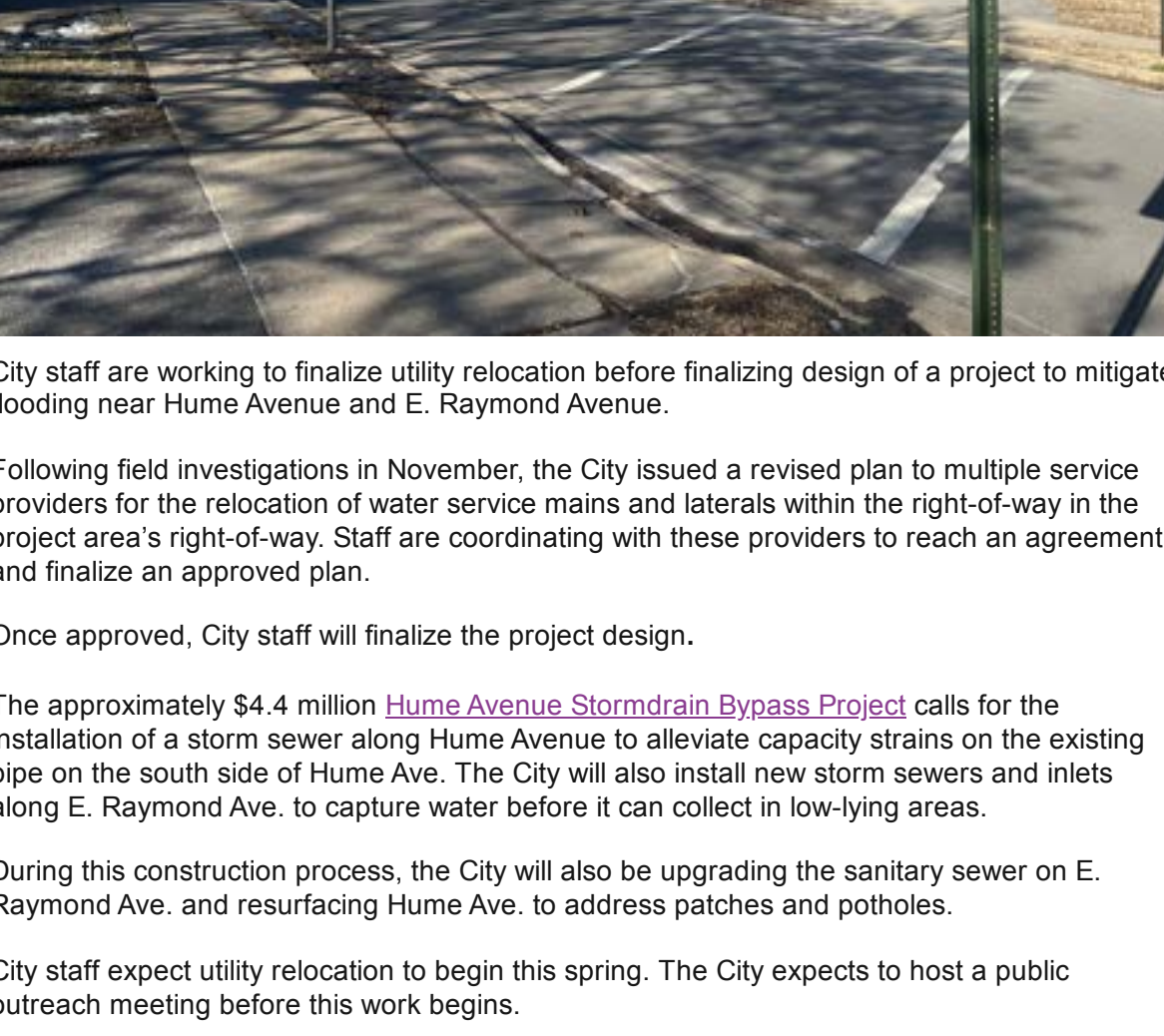
The aim of this project is to ease the burden on the Hoofs Run culvert. A new culvert and a runoff storage facility is being considered to reduce the chance of stormwater overwhelming the culvert and make Alexandria more resilient to flooding for nearby residents and businesses during heavy rainstorms.

City staff are working through possible design options to determine which is the best, based on several key factors including effectiveness, constructability, cost, and construction impacts. Next steps will be refining the evaluation criteria and applying them to various alternatives to identify the most advantageous option.

[See More Large Capacity Projects →](#)

### SPOT IMPROVEMENT PROJECTS

#### Final Design Complete in Edison Street Cul-de-Sac Drainage Improvement Project



The construction phase nears on a project to reduce flooding along the northern half of Edison Street.

City staff completed review of the final design phase on the **Edison Street Cul-de-Sac Drainage Improvement Project** in November and are preparing to solicit bids for construction.

The final design, which was submitted last fall, required minor design revisions to reduce the cost of the project. City staff are working with utility providers in Four Mile Run Park to coordinate. City staff will also be working with utility providers to finalize relocation plans.

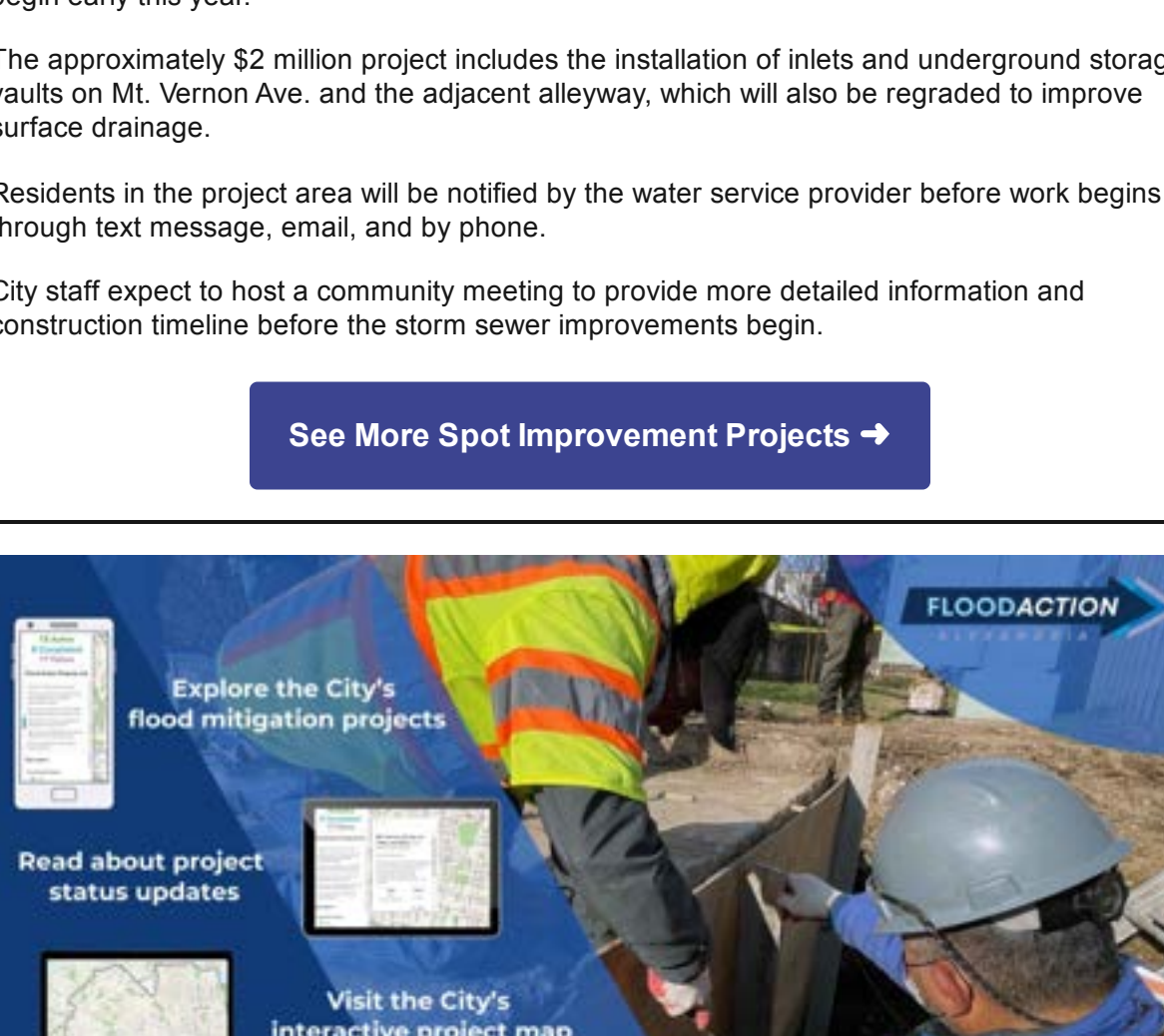
Designs for the project include upgrading the existing outfall to a larger size, which collects water from the Edison Cul-de-Sac and discharges into Four Mile Run. Additional inlets will also be installed at the intersection of Edison Street and Mark Drive, improving the storm sewer's capacity and reducing flooding.

The \$1 million project is one part of a future large capacity project to provide flood relief to the Hume Springs neighborhood. The City received a grant from the **Virginia Community Flood Resilience Fund** to accelerate this component, as well as the **100 W. Reed Avenue Curb Inlet Improvement Project**. Both will provide flood mitigation in this area.

The project team will be looking into alternative residential parking options, as the project may result in a reduction of parking spaces for residents. The City will also be coordinating with the City Resource Recovery unit to maintain trash collection through the duration of the construction.

City staff expect to host a neighborhood meeting before construction work begins.

#### City Staff Prepare for Ninety Percent Design for 100 W. Reed Avenue Curb Inlet Improvement Project



City staff are making progress on a project to reduce surface flooding near the Dale Street Community Garden.

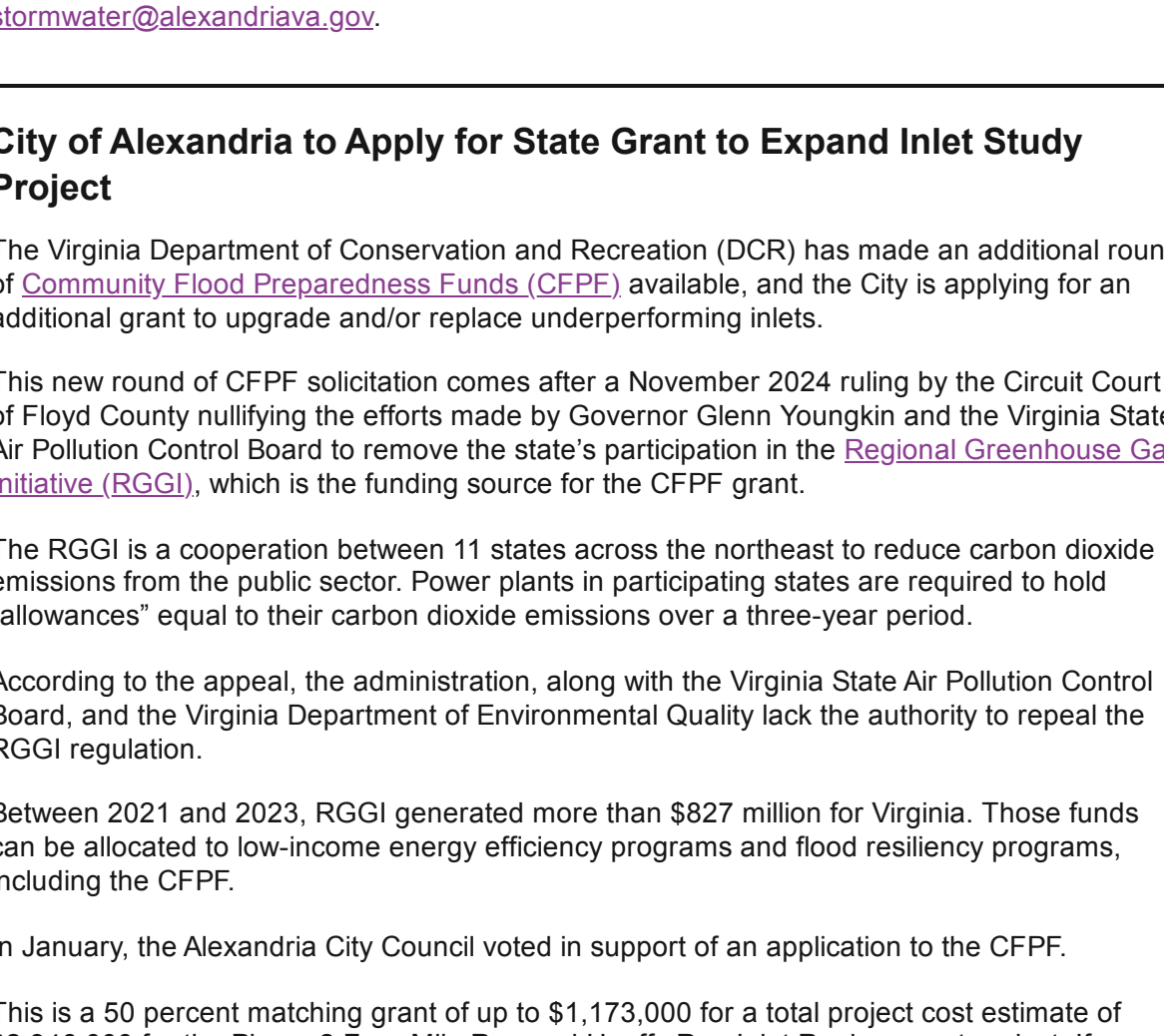
The project includes installing inlets along W. Reed Ave. as well as upgrading the outfall pipes running under Hume Spring Park and Dale Street Community Garden. These measures will allow more stormwater to be captured and conveyed through the sewer system. The \$2,200,000 project is another component of the **Edison and Dale Drainage Improvement Project** to provide flood relief to the Hume Springs neighborhood, which was accelerated after receiving a **Virginia Community Flood Resilience Fund** grant.

In October, the City completed review of the 60 percent design for the **100 W. Reed Avenue Curb Inlet Improvement Project**. Following a soil sampling operation using test pits in the project area, City staff determined the need for pipe realignment to meet with Virginia Department of Transportation (VDOT) guidelines for shallow storm sewer installations under roadways.

The revised pipe alignment has been reviewed, and staff are awaiting the 90 percent project design. Additional test pits are also required to verify that the revised pipe alignment does not conflict with existing water mains.

City staff will distribute notices to residents in the area before soil sampling begins.

#### Utility Relocation Expected to Begin This Spring on Hume Avenue Stormdrain Bypass Project



City staff are working to finalize utility relocation before finalizing design of a project to mitigate flooding near Hume Avenue and E. Raymond Avenue.

Following field investigations in November, the City issued a revised plan to provide service providers for the relocation of water service mains and laterals within the right-of-way in the project area's right-of-way. Staff are coordinating with these providers to reach an agreement and finalize an approved plan.

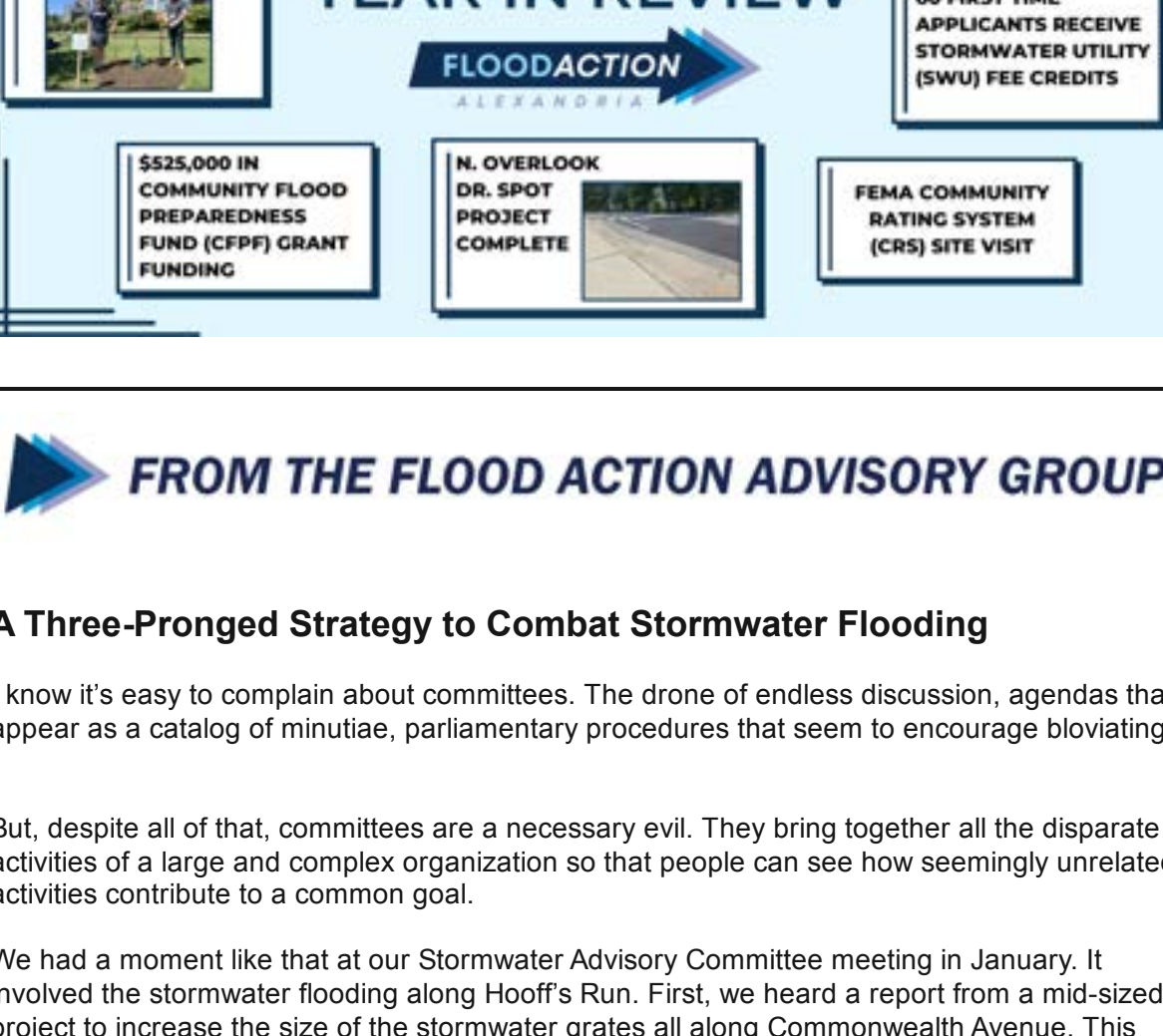
Once approved, City staff will finalize the project design.

The approximately \$4.4 million **Hume Avenue Stormdrain Bypass Project** calls for the installation of a storm sewer along Hume Avenue to alleviate capacity strains on the existing pipe on the south side of Hume Ave. The City will also install new storm sewers and inlets along E. Raymond Ave. to capture water before it can collect in low-lying areas.

During this construction process, the City will also be upgrading the sanitary sewer on E. Raymond Ave. and resurfacing Hume Ave. to address potholes and potholes.

City staff expect utility relocation to begin this spring. The City expects to host a public outreach meeting before this work begins.

#### Clifford, Fulton, Manning (CFM) Storm Sewer Improvement Project Moves Forward with Next Design Phase



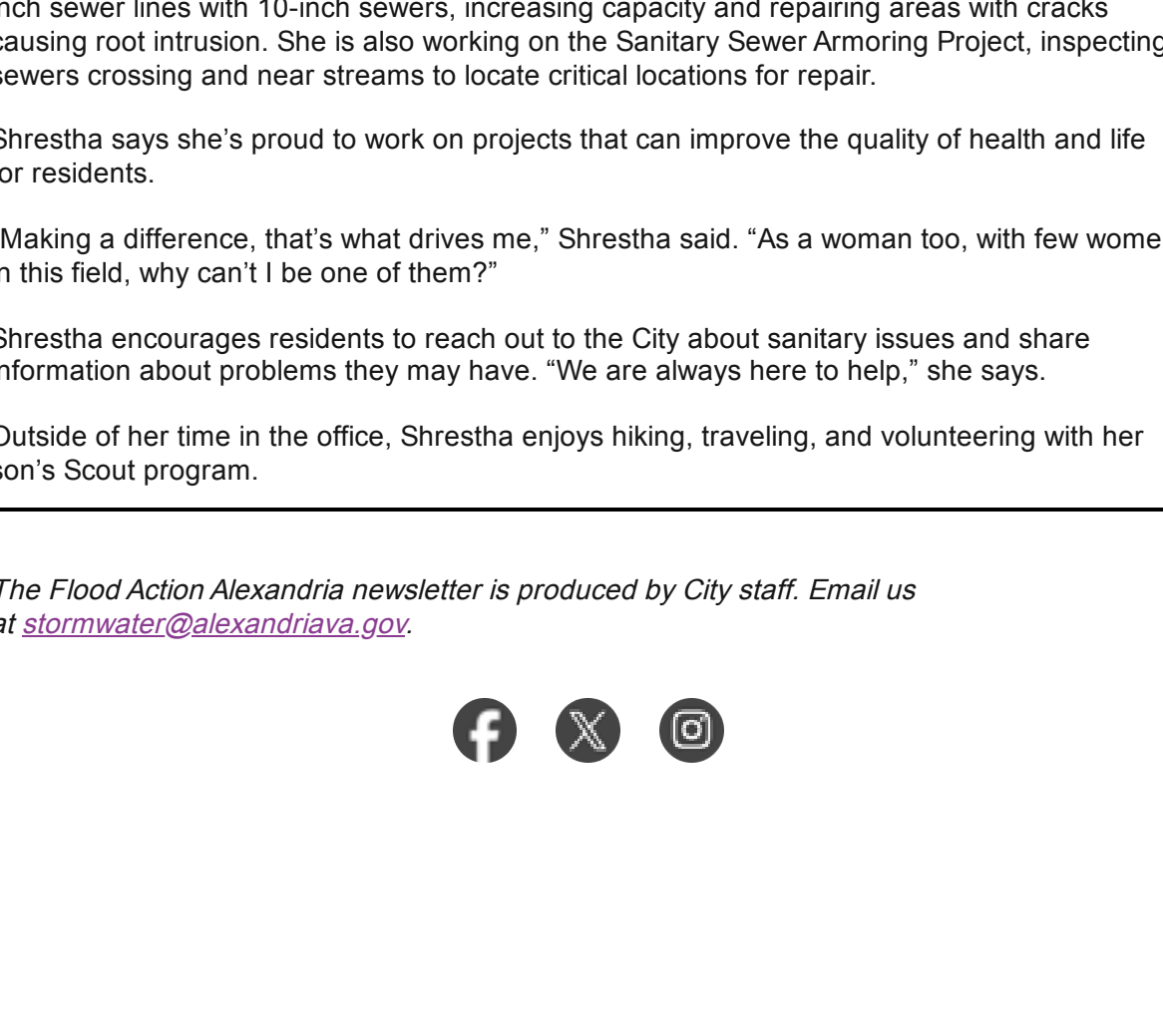
City staff have accepted the preliminary designs for a project to provide flood relief to lowhouses along Fulton Street and Manning Street.

The **Clifford, Fulton, Manning Storm Sewer Improvement Project** plans include rebuilding the area between Fulton St. and Manning St. to improve drainage, as well as installing inlets and underground storage to increase stormwater capacity. The project received \$420,000 in a **Federal Community Project Funding (CFPF)** grant administered by the Department of Housing and Urban Development (HUD).

In October, the City conducted utility test pits and soil samples were collected in the project area. Staff are now working to collect additional topographic data near the intersection of Commonwealth Avenue and Clifford Avenue.

City staff expect to host a community meeting this spring to share information with the neighborhood about the scope of the project, its benefits, and potential construction impacts.

#### Construction to Begin on Mt. Vernon Cul-de-Sac Storm Sewer Improvement Project



City staff are preparing for a project to provide flood relief to residents along the Mt. Vernon Cul-de-Sac, expected to begin construction work in February.

The first stage of the **Mt. Vernon Cul-de-Sac Inlet and Alley Storm Sewer Improvements Project** will be the relocation of the waterline on Mt. Vernon Avenue. This will take place within the City's right-of-way and is expected to be complete in May. Utility relocation is also expected to begin early this year.

The approximately \$2 million project includes the installation of inlets and underground storage vaults on Mt. Vernon Ave. and the adjacent alleyway, which will also be upgraded to improve surface drainage.

Residents in the project area will be notified by the water service provider before work begins through text message, email, and by phone.

City staff expect to host a community meeting to provide more detailed information and construction timeline before the storm sewer improvements begin.

[See More Spot Improvement Projects →](#)

**Explore the City's flood mitigation projects**

**Read about project status updates**

**Visit the City's interactive project map**

[alexandriava.gov/floodAction](#)

## NEWS

### Deadline Approaches for the Stormwater Utility Fee Credit Program

The application window for the Stormwater Utility (SWU) Fee Credit Program will close on February 15, 2025.

The **SWU Fee** was adopted to provide a dedicated funding source for stormwater management services and capital projects, including large capacity and spot improvement projects, operations and maintenance of public stormwater infrastructure, and stormwater quality initiatives.

The **credit program** aims to encourage residents to take action in improving water quality and reduce flooding on their properties. These efforts may be eligible for a credit, or reduction, in a property owner's SWU Fee up to 50 percent. Approved applications are in effect for two years.

Program staff have received approximately 100 applications since the current window opened on December 1.

During the 2022-2023 cycle, the City received nearly 300 applications, all of which are now up for renewal. Previous properties that received a credit that is expiring are being contacted to renew their applications.

There are more than **20 eligible residential practices** that can help protect homes from flooding or can help improve the quality of stormwater entering into local waterways. Eligible practices in stormwater management solutions include rain barrels, rain gardens, permeable pavement, landscaping, and mature tree preservation. Practices that reduce flood risk include flood vents, utility elevation, installation of flood resistant construction materials, flood barriers, flood gates, or basement window wells.

City staff hosted two webinars during this application period to share information and answer questions from the public. [Zoom recordings](#) can be found on the SWU Fee Credit website.

Property owners can apply until February 15. More information can be found on the program website, or by contacting the Stormwater Management Division at [stormwater@alexandriava.gov](mailto:stormwater@alexandriava.gov).

### City of Alexandria to Apply for State Grant to Expand Inlet Study Project

The Virginia Department of Conservation and Recreation (DCR) has made an additional round of **Community Flood Resilience Funding (CFRF)** available, and the City is applying for an additional grant to update and/or replace underperforming inlets.

This new round of CFRF solicitation comes after a November 2024 ruling by the Circuit Court of Floyd County nullifying the efforts made by Governor Glenn Youngkin and the Virginia State Air Pollution Control Board to remove the state's participation in the **Regional Greenhouse Gas Initiative (RGGI)**, which is the funding source for the CFRF grant.

The RGCI is a cooperation between 11 states across the northeast to reduce carbon dioxide emissions from the public sector. Power plants in participating states are required to hold "allowances" equal to their carbon dioxide emissions over a three-year period.

According to the appeal, the administration, along with the Virginia State Air Pollution Control Board, and the Virginia Department of Environmental Quality lack the authority to repeal the RGCI regulation.

Between 2021 and 2023, RGCI generated more than \$827 million for Virginia. Those funds can be allocated to low-income energy efficiency programs and flood resiliency programs, including the CFRF.

In January, the Alexandria City Council voted in support of an application to the CFRF.

This is a 50 percent matching grant of up to \$1,173,000 for a total project cost estimate of \$2,346,000 for the Phase 2 Four Mile Run and Hooffs Run Inlet Replacement project. If received, it would be used to expand the **Four Mile Run and Hooffs Run Inlet Installation and Expansion Project** by funding the expansion and/or replacement of grant-funded inlets.

City staff will be investigating the capacity of these inlets in the two watersheds and determining what will be needed to make sure they can support infrastructure upgrades in the area. This builds on the Inlet Capacity and New Inlet Program work that received a CFRF grant in a previous round. The Inlet Program is part of a larger flood mitigation strategy to rapidly identify areas across the city where inlets can be installed to mitigate flooding.

In 2024 the City received a \$525,000 CFRF grant to develop its first **Flood Resilience Plan**, a comprehensive look at flood risk to better understand and prepare for future flood events. The Plan will include new engagement efforts to communicate with residents, empower communities to be prepared for flood events, and build resiliency.

Since its establishment in 2020, the City has received more than \$6 million in CFRF grants for flood mitigation projects.

## COMMUNITY MAINTENANCE WORK

**STORMWATER MAINTENANCE**

INSPECTION AND MAINTENANCE

- 34 HOT SPOT AREAS
- 3,726 CATCH BASINS
- 32,402 LINEAR FEET OF CCTV INSPECTIONS

ALEX313 SERVICE REQUESTS

217 RESIDENT REQUESTS INVESTIGATED AND ADDRESSED

**COMPLETE PROJECTS**

BMP MAINTENANCE

- 2776 BMP'S RE-EVALUATED
- ALEXANDRIA POLICE
- 2900 BUSINESS CENTER DRIVE

CATCH BASIN INSTALLED

OUTFALL FLAP GATE INSTALLED

- WOLFF STREET
- SPRINGER STABILIZATION
- SEMINARY HILL

**STORMWATER INLETS**

42 REPLACED TOPS

63 STRUCTURES REPAIRED

## SNAPSHOT

1 LAYERS LANE SPOT PROJECT COMPLETE

375 TREES PLANTED FOR CITY BIRTHDAY

182,600 IN COMMUNITY FLOOD RESPONSE (CFPF) GRANT FUNDING

FLOOD MITIGATION GRANT TOPS \$1.1 MILLION

2024 YEAR IN REVIEW

FLOOD ACTION

FRANCIS HANMOND HEADWALL DCP PROJECT COMPLETE

60 FIRST TIME APPLICANTS RECEIVE STORMWATER UTILITY (SWU) FEE CREDITS

16 OVERLOOK DR. SPOT PROJECT COMPLETE

1634 COMMUNITY BAYING SYSTEMS (CBS) SITE VISIT

## FROM THE FLOOD ACTION ADVISORY GROUP

### A Three-Pronged Strategy to Combat Stormwater Flooding

I know it's easy to complain about committees. The drone of endless discussion, agendas that appear as a catalog of minutiae, parliamentary procedures that seem to encourage bloating. But, despite all of that, committees are a necessary evil. They bring together all the disparate activities of a large and complex organization so that people can see how seemingly unrelated activities contribute to a common goal.

We had a moment like that at our Stormwater Advisory Committee meeting in January. It involved the stormwater flooding along Hooffs Run. First, we heard a report from a mid-sized project to increase the size of the stormwater greases all along Commonwealth Avenue. This new project was launched to identify where greases can be enlarged to accelerate the drainage of stormwater. Second, we learned that the project to refine the sanitary sewer mains and waterproof the manholes in the same area is a similar project. That will reduce the inflow of above-ground stormwater into the sanitary system, which causes basement back-ups during severe rainstorms. Third, we were briefed on the routine cleaning of the Hooffs Run culvert – it's almost done. The culvert is the "express lane" for stormwater ending near Commonwealth Avenue. This project ensures that the culvert can handle maximum capacity.

There it is – three distinct projects – with three different project managers – working together to address a complex and longstanding problem. This three-prong strategy of capacity building, inflow reduction, and maintenance is being applied in other flood-prone areas across Alexandria.

The Stormwater Advisory Committee did not create the three-pronged strategy. But it did provide an environment where residents can monitor the strategy and encourage its application to make Alexandria more flood resilient. And that's worth it – despite all the problems with committees.

John Hill  
Chair, Stormwater Utility and Flood Mitigation Advisory Committee

The above message is an editorial submission from the Stormwater Utility and Flood Mitigation Advisory Committee.

## STORMWATER STEWARD

Arhisa Shrestha is driven to help others. As a Sanitary Infrastructure Engineer, each project is planned to improve the lives of the Alexandria community.

"I think that's in my blood," Shrestha said. "Engineering is the building things that help people's day to day life. It doesn't necessarily have to be big infrastructure. That inspired me, it's something you can do to help people."

Originally from Nepal, Shrestha began her career as a sanitary engineer working for a non-profit organization which provided water and sanitation supply, as well as hygiene and sanitation education to underserved communities near Kathmandu. As part of a comprehensive team, she also helped build sanitary sewer systems and small-scale water source systems in villages and rural areas where their communities don't have easy access to water.

"Water and sanitation isn't a priority. It's hard to educate people about what the importance of having good sanitation, hygiene, clean water is. That's why we needed a team," Shrestha said. "They have to spend hours just to get one bucket of water. We go to those communities and help them own a water supply so they have access to a continuous water supply."

Shrestha moved to the US about twenty years ago, remaining in the DMV area. After working in the private sector for several years, she joined the City of Alexandria in 2022 as a sanitary engineer. She is currently working on the Lee Street Upgrading Project, replacing two existing 6-inch sewer lines with 10-inch sewers, increasing capacity and repairing areas with cracks causing root intrusion. She is also working on the Sanitary Sewer Arming Project, inspecting sewers crossing and near streams to locate critical locations for repair.

Shrestha says she's proud to work on projects that can improve the quality of health and life for residents.

"Making a difference, that's what drives me," Shrestha said. "As a woman too, with few women in this field, why can't I be one of them?"

Shrestha encourages residents to reach out to the City about sanitary issues and share information about problems they may have. "We are always here to help," she says.

Outside of her time in the office, Shrestha enjoys hiking, traveling, and volunteering with her son's Scout program.

The Flood Action Alexandria newsletter is produced by City staff. Email us at [stormwater@alexandriava.gov](mailto:stormwater@alexandriava.gov)